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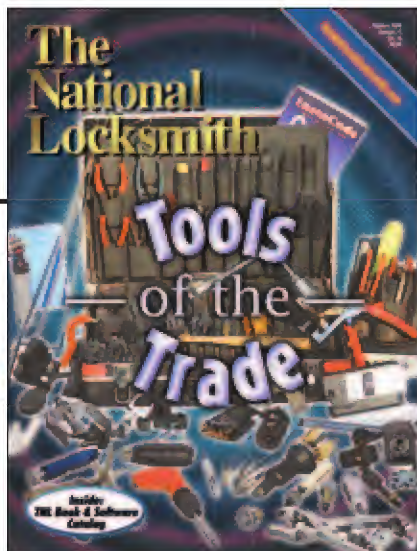
The National Locksmith®

Tools of the Trade

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On The Cover...



You've heard it said a million times, but it's worth repeating; using the correct tool for the job will make your life and the job much easier, quicker and more profitable in the long run.

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CONTENTS

The National Locksmith October 2000 • Vol. 71, No. 10

FEATURES

**COVER
FEATURE! 14**

Locksmith Tools

Safe tools, bypass tools, automotive tools and installation tools.

22

Quick Entry

Opening the 2000 Lincoln LS.

26

**1999 Ford Police
Interceptor, Part 2**

Concluding with the decklid lock and glovebox lock.

33

**The OM2000 From OSI
Security, Part 1**

Combining electronic access control with commercial Grade 1 lockset.

46

LearnLok From Ilco, Part 1

A simple electronic card access lock system.

58

McGunning Around

The locking bolts and locks are in identical configurations.

66

1993 Ducati Master

Key origination is a breeze.

70

Tubular Locks, Part 5

Examining more tubular picks.

108

2000 Daewoo Leganza

Opening this popular Korean import.

119

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DEPARTMENTS

5 COMMENTARY

6 MANGO'S MESSAGE

8 LETTERS

54 BEGINNER'S CORNER

63 THE CASH STATION

82 THE LIGHTER SIDE

96 TECHNTIPS

112 ROAD RALLY

120 TEST DRIVE

COMMENTARY

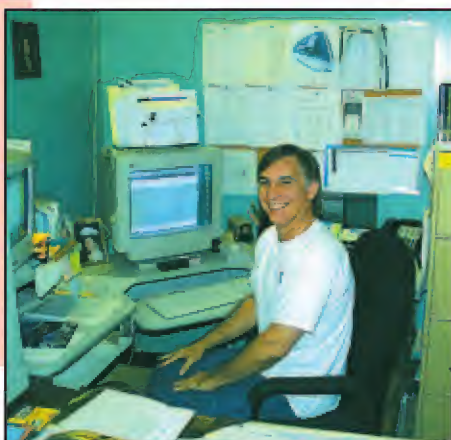


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1. The hole in our parking lot excavated at Greg's suggestion. Dug by the phone company six weeks ago because Greg promised to drill a single hole into the building to finalize burying of the phone line. The hole will be filled in when Greg makes this one hole through the foundation.

2. Greg sitting at his desk as he has done for the last six weeks. Note that among the tools not sitting on his desk is the hammer drill he owns, and with which he promised to drill the foundation ...six weeks ago.



3. Made aware of the subject of this Commentary, Greg displays innovative thinking in an attempt to fill in the hole.

Stay tuned for further developments in this breaking story. We'll report upon them as the tale unfolds.

Greg's Hole... Or the story of Mango's Mess

I still remember the first time a co-worker handed me a Mango's Message.

"You better read this," he suggested.

The color returned to my face not long after I read Greg's editorial, maybe about fifteen minutes. As you all know, Greg has a knack for using his space to do one of two things:

1. Muckraking: defined as digging under rocks, picking off the slugs, and looking for trouble to write about.
2. Picking on fellow TNL employees.

Having myself been the subject of a sentence or two in Mango's Message, as have all of us here, I know my co-workers will appreciate the pictorial which follows.

4. As the Publisher, however, my name is still over Greg's on the masthead which means that I am able to suggest alternate means of filling what has come to be known around here as "Greg's Hole."



5. Shown here is Mrs. Rachel Mango, the real reason Greg isn't entombed in Greg's Hole. Rachel is my chocolate-eating partner in crime. She might miss her husband, who eight months ago promised to do a few things for her around the house.



Marc Goldberg

Have questions? Want free technical help?
Free Locksmith Forums!
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Marc Goldberg
Publisher

October 2000 • 5

Mango's Message



In the spirit and theme of the Olympic games, there were more participants in this year's big event than ever before. The stream of competitors seemed to stretch to the end of the block, and there I was, right in the middle of them all. I've been here before and was fortunate enough to experience the adulation as reigning champion. This year I was in the enviable position of defending my title and hailed as the team to beat. The other half of this winning formula was my wife, Rachel. All the big guns were pointing our way, but I wasn't worried. We are both seasoned veterans with nerves of steel and an unwavering concentration that would make a Tibetan monk's conviction pale by comparison. Too many spectators to count lined the streets to witness this potentially history-making event. Never before had a team won back to back titles and we were not about to relinquish it on some minor mishap or mental lapse. We were both finely tuned sports machines with only one goal programmed into our microprocessor... to annihilate the competition and Win!

The referee asked everyone participating to take their positions as game faced competitors jockeyed for position. The time had come to prove to the world the make of their mettle. A hushed silence engulfed the playing field as nervous competitors twitched in anticipation. I peered down my nose at each and every opponent, witnessing the horror and humiliation they were all about to experience in their eyes. They didn't have to say a thing. Even before the games began, they knew they were no match.

Rachel and I were off to a good start, overcoming every obstacle thrown our way. It didn't take long before others began dropping like bowling pins, as the field of existing competitors slowly dwindled.

It was not a pretty sight, but total domination never is.

The game had gone longer and the distances between us greater than ever before. The audience was witnessing one of the greatest spectacles of endurance, determination and pure desire ever recorded in sports history.

My heart was palpitating like a jackrabbit as I took yet another step backwards. I slumped over, supporting my withered torso with my clammy palms against my kneecaps as I watched a bead of perspiration stream from the corner of my eyebrow and splat against the pavement. I was in desperate need of sodium rich fluids, but there was no time to ingest any. Three more couples hot on

Top Guns

our heels lingered in the mist, determined to dethrone us. I was going to have to reach even deeper within myself for endurance and true grit to remain supreme. I peered at Rachel as she flashed me... a thumbs-up. The game continued.

Bang! One more couple crashed and burned, leaving only two other couples to compete and Rachel and I were right between them. I could sense they knew that one minor mistake and it would be all over. The game had lasted so long it was now beginning to get dark, creating even greater challenges to the remaining participants. I broke out a pair of night vision goggles and broke the challenger's back. Just kidding.

In the end the playing field was littered with cracked shells and yellow yokes, as a few dozen eggs met their demise. One remained whole and it was in my clammy little hands. We lived up to the challenge and Rachel and I defended our title, remaining the undefeated egg toss champions on New England Ave. You can bet that next year at my parent's block party, both Rachel and I will be poised and ready to compete against any mere mortal foolish enough to challenge us. Bring it on, suckers!

In the ceremonial aftermath, Rachel and I were presented with yet another bottle of Champagne and the remaining egg for the trophy case. You see, it doesn't matter what you do in life. It only matters that you do it the *best* that *you* can. Live up to the challenge and you will forever be rewarded and remembered. Even if it is as the defending egg toss king and queen of the world! **TNL**

Greg Mango
Editor



Letters

The National Locksmith is interested in your view. We do reserve the right to edit for clarity and length.



ALOA Lifetime Achievement Award Winners

Jerry Hoffman (second from left) and Al Hoffman (second from right) received the ALOA Lifetime Achievement Award from Peter Fields (left) of Medeco and John J. Greenan (right) ALOA president. The awards were presented at the successful ALOA show in Las Vegas, Nevada.

This marks the first time that ALOA presented two people with this award simultaneously. It was presented to them in recognition of their many years of dedication to the locksmith industry. The brothers continue in the tradition of their parents, the late Harold and Frieda Hoffman, who started in the industry with a small locksmith shop over 70 years ago. Eventually the business evolved into a wholesale distribution company and small manufacturing business. As the business grew it was divided into two separate entities, Al took the wholesale company (H. Hoffman Company) and Jerry took the manufacturing business (HPC, Inc.)

Through the years, both Al and Jerry Hoffman have remained dedicated to the locksmith industry and continue to strive for new and better ways to service the industry.

Going Beyond The Call Of Duty

A few weeks ago one of the engineers at BWD received a pleasant e-mail from her sister. The letter briefly described a woman's ordeal in trying to get her toddler out of a locked vehicle. Her efforts included a coat hanger, which failed,

trying to coax the child to unlock the door, which failed, a call to 911, and eventually a locksmith. This is a copy of the original e-mail:

Casey locked Chad and my keys in the car yesterday evening. After trying to talk Chad into pushing the button for nearly an hour, I called a friend to come over and try to use a clothes hanger. After a half-hour of that, I tried a second

WRITE US!

The National Locksmith
1533 Burgundy Parkway
Streamwood, IL 60107-1861
Attn: Letters To The Editor

E-mail:
natlock@aol.com

half-hour to call David (who has my spare key). Finally I called 911 and the dispatcher said to call a locksmith. By then Chad had rifled through my wallet and was asleep. Twenty minutes later the locksmith arrived, and twenty seconds later Chad was a free man. Would you believe the locksmith unlocks children for free! I tried to force money on him, but he would not take it. Chad was just a little sweaty on his back. Had this happened last week, I would have broken the window out in a panic. I wasn't panicked, but I couldn't remember my phone number or address. It was 10:00 p.m. and past my bedtime! The locksmith is:

David Orr

Bama Safe and Lock, Alabama

P.S. It's good to know there are people like this!

Needless to say, the locksmith was the last and only successful attempt in getting the door open. Despite the insistence of the relieved mother, the locksmith would not accept any payment for freeing a child from a locked car.

As we read the e-mail, we realized that many locksmiths around the

country give freely of their time and expertise in times of crisis and in most cases, never receive recognition. So, as a way of saying "Thanks" to David Orr of Bama Safe & Lock, of Tuscaloosa, AL, BWD has sent a selection of their Premium Pack locks. In light of all the locksmith efforts that go unrecognized, BWD wishes to extend this same offer of appreciation to locksmiths from around the US and Canada. Simply send in your (or a friend's) story of "Going Beyond The Call Of Duty." On a monthly basis, BWD will award a set of Premium Pack locks (approximately \$100.00 in value) to one qualifying locksmith. So, hurry and send your story and, if possible, a photograph of the helping hand hero to:

Going Beyond the Call of Duty
c/o The National Locksmith
1533 Burgundy Parkway
Streamwood, IL 60107
Fax: (630) 837-2044
E-mail: natllock@aol.com

AABLE Lock Breaker

Just a note on the Beginners Corner article in the August issue regarding the AABLE Lock Breaker.

The procedures given work fine on a tee-handle lock or a lock with a cam on the end of the lock. However, if you do this to most laundry coin boxes, you must deal with an added aggravation. Once the lock is drilled, the cam disc that drives the arms may or may not fall off the end of the lock. If it doesn't it has a good chance of jamming the lock arms. If it does fall off, the upper lock arms will fall clear, but gravity will cause the lower lock arm to stay engaged, and fishing that out can be a really nasty proposition.

It is best to core the whole box and replace it completely. Standard boxes cost about \$18-20 complete, ready to lock in place and walk away. Hardly worth the man-hours to try to salvage one that has been drilled. Especially since Greenwald, ESD, or Monarch sell just the parts to rebuild one. Considering the cost of a new box, selling a set of control arms for \$1.00 isn't worth the aggravation.

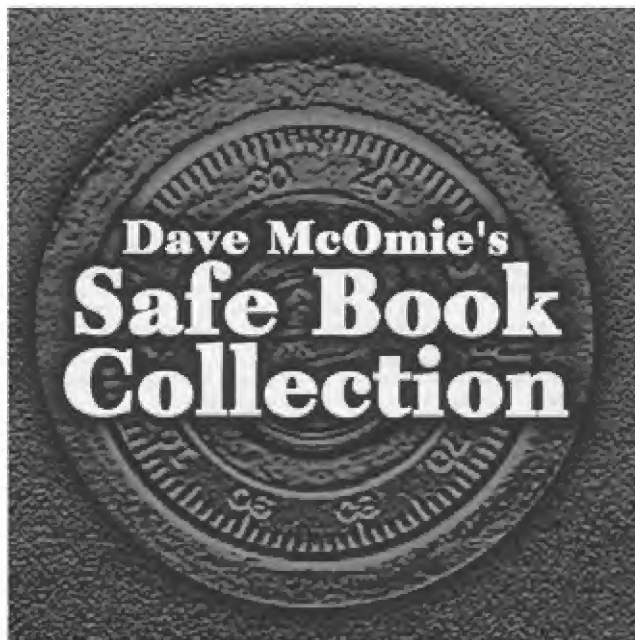
Just a thought to let you know.

*Norman Martin
Monarch Tool & Mfg. Co Inc.*

Licensing Pros & Cons

I have read several things Pros

and Cons about licensing of locksmiths and I have only one thing to say on the subject. If you take a license of any kind the organization that gives you your license controls you! If you want someone controlling you and your business then take their license, as for me I want none of them. I signed on with USAC several years ago to do their locksmith work in the area I'm in. At first everything worked fine, then they required locksmiths to carry certain insurance amounts. I bought the insurance that they required and sent them a copy. Now they want a certificate of insurance with their name on it. If you give them such a certificate then they control the policy, not you. Before you give them such authority you should talk it over with an attorney first. USAC has owed me for over two months now. I have called the Dallas area supervisor seven times now to talk to him about the insurance and he will not return my calls. I only charge \$30 for opening vehicles plus \$1.25 per mile outside of my city limits. I have traveled up to 86 miles at night to open pickups and cars for them. Now USAC wants to cut me back to



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#DMCD - 1

my original contract (\$20 openings and \$.75 per mile outside of my city limits). I refuse to work for them again. I'm only a small locksmith in a low paying area. I find it's a pleasure to work and help your customers. It's just not a pleasure when the big guys cheat you.
*George R. Grantham
 Texas*

Farm it Out

What's up with everyone and this licensing issue? Lots of locksmiths are passing up jobs needlessly, just because of it. No where in any legislation does it restrict you from

being a General Contractor (GC), to secure such jobs. Why run away from anything that may be out of your league? Is it not possible for you the locksmith to sub out the portions of the job that may require a specific certification or license? Who says that you can't hire the qualified persons who is licensed and who is insured?

I'm just being the Devils advocate here, because it is unfortunate that the moment any issue arises over the wire weenies, everyone backs off as if afraid of "The Man." Ooohhhh, show me the Installation Police or the Wire

Warden, will ya. The fact is you can play in this market. I recently installed an automatic door opener and even ran the wires, but when it came time for the electrician, I hired him to do the tie in.

I also have had jobs that I only did the door work while the Alarm Companies did their thing, but it was all on my ticket. Even if you are not allowed to touch a wire, so what! Hire the guys that can and then simply step on the bill. There are incubators all over the place with guys that have never even lifted a drill, let alone install integrated systems. Yet they form companies and bid on project jobs all the time. Then they hire the appropriate trades to do the work.

Do yourself a favor and stop knocking your knees every time electricity requiring jobs arise. Take the challenge and forge relationships with other trades and companies that can secure these gravy jobs. The stakes are high and the profits are too. Unless of course, you're not interested in making money.

*Tom Lynch
 New Jersey*

Should Have Set the Brake

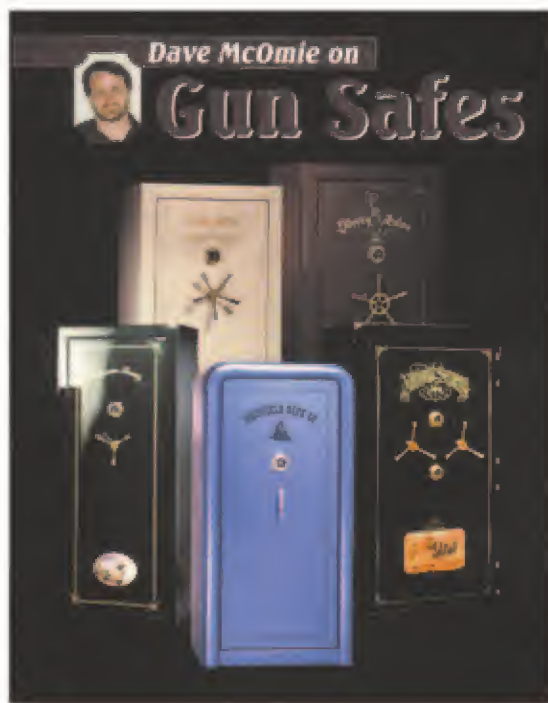


This is a photograph demonstrating what not to do on a cold New England morning when you're in a hurry. I got a call at 7:30 in the morning from a customer that had locked her keys in her car and it was running. I knew it was running, but when I got there 20-minutes later, apparently it had done more than run... it rolled as well.

After opening it for \$60 plus tax and making her a spare key for free, I called her a tow truck

To all, have a good day and don't forget your E brake!
*E-mail
 Best IC*

Gun Safes



Need a drill point or relocker drill point on a gun safe?

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#GS - 1

COVER
STORY!

LOCKSMITH TOOLS



Besides knowledge, the most important weapon in a locksmith's arsenal is tools. You can never have enough, let alone too many. To make any job easier, more profitable, and faster, use the proper tool. You will never regret it.

AUTOMOTIVE TOOLS

AAble Locksmiths Quick On



The Quick On from AAble locksmiths has been slightly modified. The key is now made of spring steel and has a ball bearing. This bearing drops into the detent hold on the tool. At this point the cutting tabs are in the proper location to be driven into the face of the ignition lock. Just turn with your socket to the on position, push the holding pin in, and remove the lock. The bearing will allow the key to turn making it less of a risk of the key breaking. You can turn all 10 cut Ford ignitions to the on position for fast removal in 60 seconds. Ford, Lincoln, Mercury etc. once the two tabs are punched into the face of the lock, you can achieve full torch power to shear the side bar. It won't strip the face of the cylinder plug like other tools do.

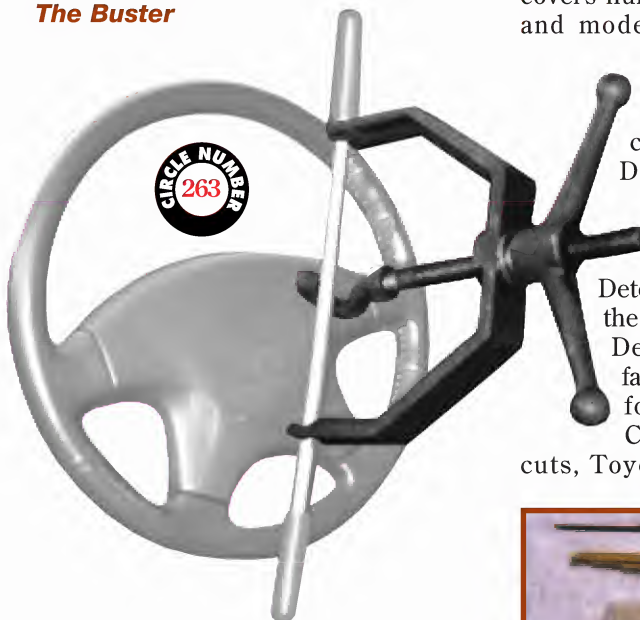
A-1 Service Kit

A-1 Security Manufacturing has announced production of a picking and decoding system for new GM 10-cut dash ignitions. Ignitions can be picked and decoded in minutes. All



parts can be reassembled without the need for replacement parts. This tool allows you to service the ignition without dismantling the dash.

The Buster



The Buster is an automotive steering wheel lock buster. The tool

allows the locksmith to "bust off" the Club™ style locks in 60-seconds or less. Made of eight pounds of solid cast iron, the tool consists of a custom shaped bow, large hook, bronze bushing and a wing nut that provides leverage and support. To operate, attach the tool snugly to the locking device and begin turning the wing nut. Within 60-seconds, the locked bar will bend and snap in half. The Buster does not touch the steering wheel, steering column or come near to the airbag.

The Determinator

The Determinator tool system now covers hundreds of different makes and models of automobiles. The automotive locksmith does not have to pull door panels to originate keys for cars anymore. With the Determinator tool system a key can be originated in 15-minutes or less. Many locksmiths even use the Determinator to gain entry into the "hard to unlock" cars. The Determinator tool system is fast becoming a favorite tool for many locksmiths. Coverage includes Mazda 10 cuts, Toyotas (including the split



wafer lock system), all Hyundais, Nissans, Ford 8 cut systems and many more.

High Tech Tools Model 2000



CIRCLE NUMBER
265

The High Tech Tools Car Opening System unlocks virtually every vehicle from 1979 to 2000. The Model 2000SPRO complete set includes 40 tools, all specialty tools in chrome, remote access system in chrome, sure grip tool handles, Toyota Camry tool, domestic and import opening manuals, information and side airbag manuals, door panel manual, transponder manual, manuals on CD-Rom, strip savers, Super Wedge system, opening video seminar, extended probe light and the Ultra Jack 2000 system, all packed in a deluxe hard case with case organizer.

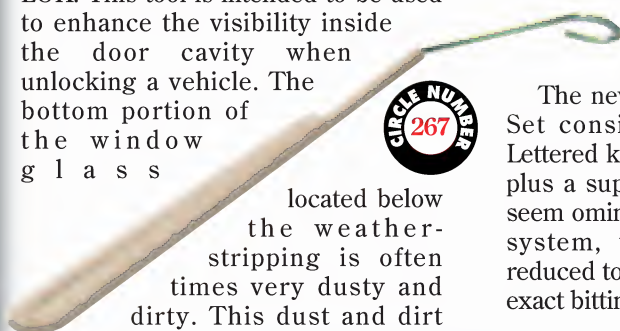
Lockmasters Mercedes Tool

This new tool is used to defeat the ignition bezel, which will allow you to remove the ignition cylinder quickly and easily. After removal, replace with a one or two poke-hole ignition.

CIRCLE NUMBER
266

PRO-LOK Window Wiper

The AO66 Window Wiper is another original tool created by PRO-LOK. This tool is intended to be used to enhance the visibility inside the door cavity when unlocking a vehicle. The bottom portion of the window glass



CIRCLE NUMBER
267

located below the weather-stripping is often times very dusty and dirty. This dust and dirt

inhibits visibility and increases glare and reflections when trying to identify targets. This tool will simultaneously clean both the inside and outside of the window glass located below the weather-stripping, removing dirt and dust to obtain a much clearer, unobstructed view. Simply slide the tool back and forth along the glass to clean the window.

Tech-Train Jiffy-Jak Vehicle Entry System

The revolutionary new Jiffy-Jak Vehicle Entry System uses space-age technology to unlock most

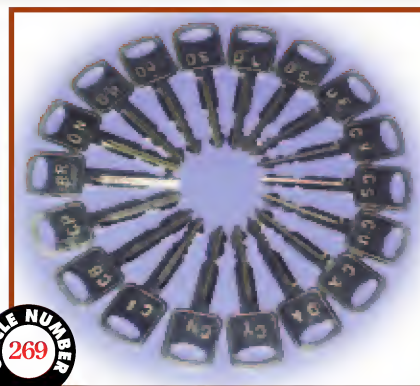


CIRCLE NUMBER
268

vehicles quickly, easily and safely. Made from a space age plastic that ounce for ounce is stronger than steel, the Jiffy-Jak system can unlock over 80% of the cars and trucks on the road today. Most vehicles can be unlocked in less than one minute. The Jiffy-Jak eliminates side-impact air bag damage and is simple to use. The Jiffy-Jak Vehicle Entry System includes an instructional video as well as printed instructions, an application chart that covers over 600 different vehicles, and comes with a 90 day, 100% satisfaction guarantee.

The National Locksmith Ford 8-Cut Decoding System

The new Ford 8-cut Decoding Key Set consists of 1 Magic Key, 64 Lettered keys and 78, Numbered keys plus a supplied chart. 143 keys may seem ominous, but once you learn the system, that number is quickly reduced to a handful and in the end an exact biting is achieved.



CIRCLE NUMBER
269

This new Ford 8-cut key origination system is so easy to use you will wonder how you did it so long without it. All 143 keys are included and the instruction manual is easy to follow assuring success.

Strattec DART

Strattec offers the DART (Diagnostic and Reprogramming Tool), which allows a locksmith to interrogate the transponder



CIRCLE NUMBER
270

security system and program new keys for Daimler-Chrysler vehicles. The DART (part number 704630) is necessary if there is only one operating transponder key, or if all transponder keys have been lost. Because of the majority of Daimler-Chrysler's, including the new 2001 Neon, use transponder keys, this tool is extremely useful for any locksmith doing automotive work.

Gator Multi-Purpose Face Cap Tool

CIRCLE NUMBER
271



Gator Tools Company introduced the "Multi-Purpose Face Cap Tools" over two years ago. During this time the face cap pliers went through several changes. The first and most important was the reversible hardened tip. This tip has two features. The standard removal tip is used on most vehicle face caps. The latter or "Sharpie" is for those very tight, hard to remove face caps. There is also a staking tool built into the jaws to be used on the thimble style face caps and staking spring covers. They are designed for many years of quality service.

Lock Technology Kit and Picks

CIRCLE NUMBER
272



The Model 1000 Supreme Master Automotive Lock-Out Kit and the Model 620 Grand Master Lock Pick set from Lock Technology are two tools for the auto opening arsenal. The 20-piece lock out kit includes an updated and fully illustrated comprehensive instruction manual and comes in a custom molded carrying case with vinyl inserts. The pick set contains 37 picks, including Models 280, 290, 300, 310, 320, 330 tension wrench and 106 gas cap pick tool in a custom leatherette case.

Slide Lock Online Automotive Training

Slide Lock Tool Company has free online training courses. The five-part seminar, which can be seen at www.Z-Tool.com, can be used to train staff with the five most needed to know subjects, including "Introduction to the Basics", "It's all in the manual", "The Business Side of Auto Lockouts", "Let's Open the Car" and "Avoid the Pitfalls".

Steck #32900 BigEasy Lockout Tool Kit

CIRCLE NUMBER
273

The BigEasy from Steck is the complete Lockout Tool Kit for all cars and light trucks. It eliminates the danger of disconnected linkage and



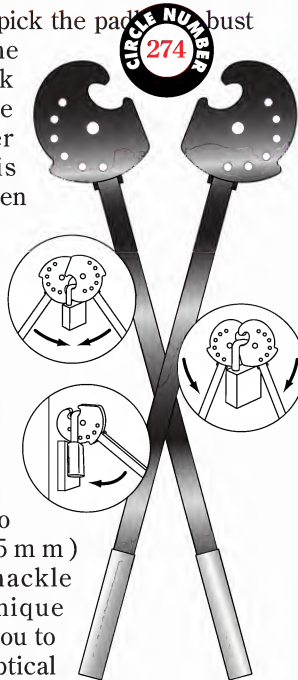
damaged wiring because the BigEasy does not enter the door cavity. The BigEasy is always visible as the technician actuates the interior buttons, slides or handles so no extensive training is required. The SureGrip Knob Lifter is used on vertical lock buttons. Also available soon is the "BigEasy Glo", a bright yellow BigEasy that Glows-In-The-Dark for great visibility

in low light.

BYPASS TOOLS

HPC Padlock Buster (PB-20)

If you can't pick the padlock, bust it open with the HPC Padlock Buster. The Padlock Buster (PB-20) is designed to open most small and medium size padlocks with shackle diameters up to 5/16" (7.95 mm). It opens padlocks with toe and heel steel locking balls, up to 1/4" (6.35 mm) diameter shackle only. The unique design allows you to adjust the elliptical cam heads to fit a wide variety of shackle clearances. Once positioned applying a lever action to the tools will force the shackle out of the padlocks and bust it open. The HPC Padlock Buster completely destroys the padlocks without marring the hasp or the door. The HPC Padlock Buster (PB-20) comes complete with two padlock busting arms and an Allen wrench for adjusting the rotating elliptical cam heads. The large center hole on the cam head is an axis point for pivoting them for different uses. The six



CIRCLE NUMBER
274

smaller holes are anchor points. Rotating the heads is as simple as loosening the Allen screw, adjusting the head and tightening the Allen screw.

PRO-LOK PKA2 Tubular Pick



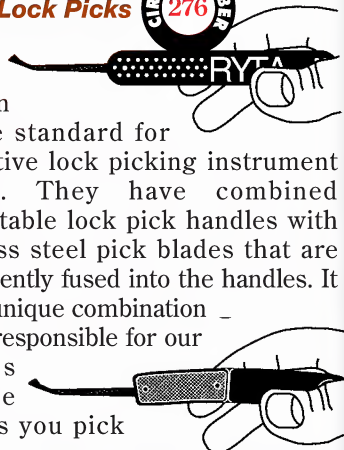
CIRCLE NUMBER
275

PRO-LOK is introducing the new PKA2 Deluxe Tubular Pick. This new tool was designed after the pick once manufactured by Lee Industries. In our opinion, this was the best tubular pick ever made. Unfortunately, this pick has not been manufactured in years. PRO-LOK has modified the design to also work on "T-handles" and other locks that may be recessed, such as vending machine locks. The pick is made to exacting tolerances with the finest materials. Comes complete with a decoder and a custom wooden storage box. 1 tool that picks locks 2 ways (each pin individually by feel or all at once). Works on left, center and right standard style locks.

Rytan Lock Picks

CIRCLE NUMBER
276

In 1984, Rytan set the standard for innovative lock picking instrument design. They have combined comfortable lock pick handles with stainless steel pick blades that are permanently fused into the handles. It is this unique combination - that is responsible for our famous "tactile feel" as you pick



open a lock. Rytan offers seventeen different pick blade designs of which nine are unique to Rytan, including five exclusive miniature-tip pick blades designs. Rytan lock picking instruments are available in traditional straight handles or our famous ergonomic curved handle design.

INSTALLATION TOOLS

A-1 CapSaver Press



A-1 has introduced a new innovative system for capping interchangeable cores. While the new CapSaver Press has the look of traditional capping presses, it is much more advanced. Using CapSaver brass strips, the press punches and forms interchangeable core caps as it seats them. Volume users will find considerable time savings because caps will no longer have to be placed and seated.

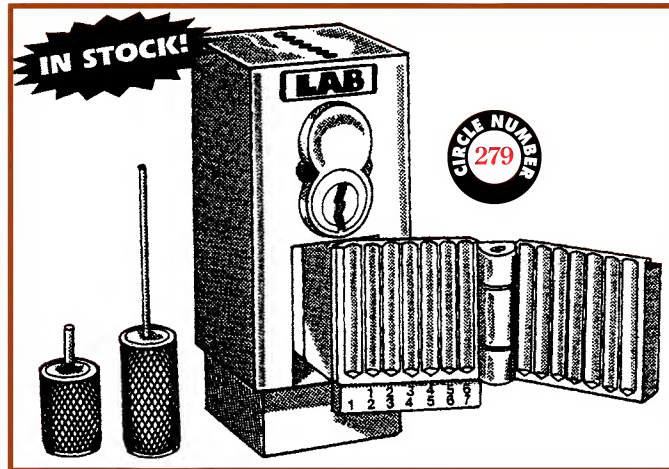
Keedex K-TMPA/R Installation Template for Adams Rite

The Keedex K-TMPA/R Installation Template for Adams Rite, allows you to make precise installation of Adams Rite 1850S, 4530, 4710 & 4711 series locks. It is also compatible with the International DH 1822 & DL 4511. Covers the following backsets: 7/8", 31/32" and 1 1/8". The template also includes the prep for the



Adams Rite exit indicator #4089, as well as a cutout for the BBW #3925 & the International FB-1200 flush bolts.

LAB I/C Tool



The LAB Interchangeable Core Annex offers the simplest method for the loading and unloading of interchangeable core pins, spring and caps, using only one instrument for both functions. A second time saving feature is a Slideout Code Book below the area where the core is slid in place. This allows the user to unload the core pins, springs and caps into a confined area without spilling parts in or around the work area. The Slideout Code Book is also used to determine the biting of the control key when it is not available and also determine the top master key biting.

LockTools.com TimeSaver Tool Series



The TimeSaver Tools utilize the existing 2-1/8" cross-bore present in most retrofit installations to accurately drill holes for all anchor plate lugs, through-bolts and electric wire ports

for various type of commercial door hardware and stand alone access control systems. The TimeSaver Holder is used in conjunction with all TimeSaver jigs to hold the jig in place for accurate drilling. They offer jigs for the Trilogy, Mas-Hamilton, Simplex, Ilco Unican 4000 and our recently

released jigs for the Ilco Unican Solitaire 850/950 cylindrical lock set, Best 6K, 7K, 8K, 9K and the Locknetics 5100 series lockset as well as jigs for most cylindrical lever handle sets.



Major Manufacturing Hit-32VD2

The HIT-452 by Major Manufacturing is a deluxe kit with all the templates required to start installing Adams Rite locks, armored and electric strikes. All that is needed is a router and basic tools. Included with the kit at no charge is an assortment of our popular aluminum door security products and mounting

brackets. This kit may be modified with different templates to meet your needs.

SAFE TOOLS

Lockmasters GSA Bolt Buster



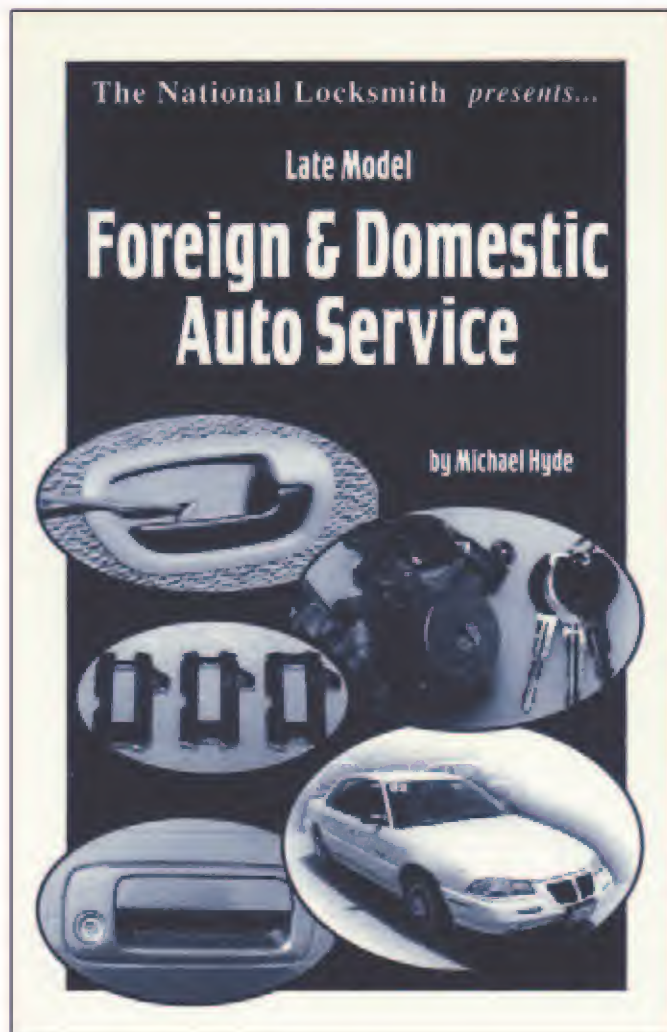
After much research, Lockmasters has solved the problem of burning up drill motors while drilling GSA drawer bolts. The new Bolt Buster is designed with a hook to support the bolt on one side while the hard plate box will support the bolt on the other side. Once this is done, attach the Bolt buster frame to the control drawer with self-tapping screws and then use the Magnum Barrel Assembly to drill the drawer bolt. This new method saves drill motors, reduces noise, adds cutting life to the hole saws, decreases the time of bolt cutting by at least 1/3 and is a GSA approved method of opening. This new attachment will work with any 357 or 457 Magnum ever sold.

MBA SoftDrill & Castle King

SoftDrill is the safe-opening sensation you have read about in the leading trade publication and seen at SafeTech and ALOA. This ingenious device actually manipulates open common mechanical safe locks just like an expert manipulator would. Hundreds of safes have been opened in less than 45 minutes using SoftDrill. Many have been opened in less than 30 seconds.

If you run into a problem on Mas-Hamilton X-07 safe locks with the castle joint connecting the drive cam

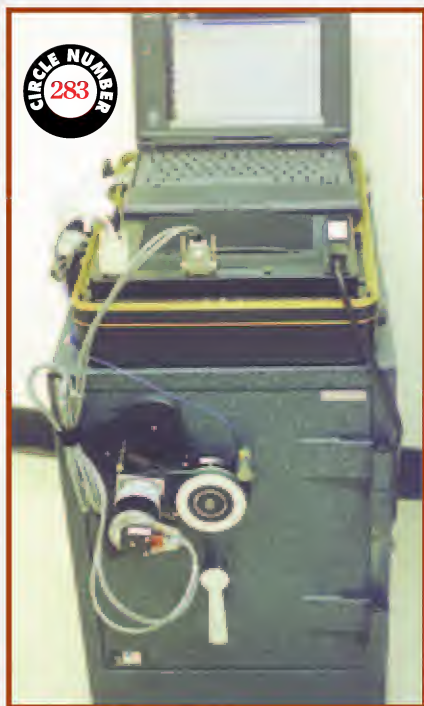
Foreign & Domestic Auto Service



This book represents the best work of Automotive Locksmithing guru Michael Hyde, author of the famous AutoSmart.

CLICK HERE TO LEARN MORE

#FDAS - 1



CIRCLE NUMBER
283

and spindle breaking, the Castle King is the solution. This situation will cause the dial and spindle to disconnect from the lock. This is a much more difficult problem to overcome than you might think, but the Castle King overcomes this problem with ease.

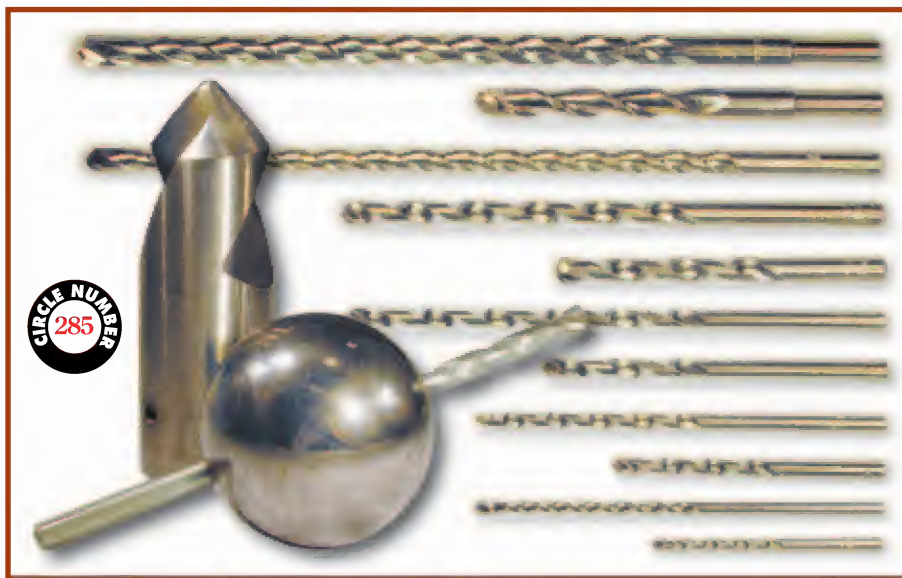
MDS Borescope



CIRCLE NUMBER
284

MDS has a rod lens safe borescope which has a 95 degree field of view, with angled view built into the end of the probe to eliminate a mirror image. With a 15X-magnified view, the unit operates on three heavy-duty "C" alkaline batteries, providing 35 watts of krypton light. Various lengths are available.

PRO-LOK Butter Bits



CIRCLE NUMBER
285

Would you imagine that you could drill a 3/8" hole in a piece of hard plate from a Mosler TRTL30 in just 38 seconds? Would you like to be able to use just one bit and be able to drill 25 holes in a piece of GSA hard plate in only 7 minutes? You can now do this and more with the incredible Butter Bits from PRO-LOK. With 5 different diameters and 11 sizes to choose from you're sure to find the bits that suit your needs. These incredible Butter Bits can be used on safes and other materials that are difficult to drill such as concrete, stainless steel, etc.

RQ Associates Imaging Systems



CIRCLE NUMBER
286

A convenient, portable, high quality imaging systems that converts your borescope or fiberscope into a full color video display. It includes a base unit with built in 10-inch color monitor, a powerful illuminator, remote head camera with 2X zoom and a scope coupler. Simply connect your scope and light guide and you're ready for full color video display. Also

available in a black & white 9 inch monitor (#MVBS-1M).

StrongArm Ball Buster

CIRCLE NUMBER
287



A major safe manufacture asked StrongArm to develop an economical method to penetrate new style ball bearing barriers they are using in safes and ATM's. StrongArm responded with the "Ball Buster," a new style bit and technique that allows you to easily drill Diebold, Amsec and LaGard ball bearing barriers. The Ball Buster eliminates the process of breaking bits while attempting to remove the balls, resulting in oversized hard to repair holes and a pile of broken bits. Available in 1/4 and 5/16x5" the Ball Buster will save you time, money and frustration. **TNL**

Quick Entry

UPDATE

by
Steve
Young



2000 LINCOLN LS

The all-new Lincoln LS (see photograph 1) and the Ford Focus are the only 2000 Ford vehicles to feature the EST (Electronic Signature Technology) Transponder System manufactured by Texas Industries. These vehicles incorporate a new transponder system that is much harder to defeat than traditional transponder systems. The EST system will probably be expanded in the 2001 model year to several other models.

All previous Ford transponder systems used a "Fixed Code" system. In that type of system, a unique code number for each transponder is "burned" into the transponder when it is manufactured, and it never changes for the life of the transponder. When the key is used in the vehicle, the code number is transmitted to the anti-theft system to verify that the correct key is being used.

In the EST system, the transponder has no code. Instead of a code, the transponder is programmed with a unique mathematical algorithm. An algorithm is essentially a mathematical equation or operation that is preformed by the transponder when it is activated. When the key is used, the vehicle transmits a random number to the EST transponder. The transponder then runs the random number through its algorithm and sends the result back to the vehicle. Simultaneously, the vehicle is running the same random number through all of the algorithms that are programmed into the system. If the result that is sent back by the key matches the result of one of the authorized algorithms, the vehicle will start, if not the vehicle will not start.

Because the EST system does not have a code number to be copied, it



1. 2000 Lincoln LS.



2. View of the rear door latch from inside the door. The arrow points to cable connection.



3. Carefully wedge open the base of the window near the center of the door. Use care not to damage the multi-layer weather-stripping.



4. A plastic card or plastic putty-knife can be used to help slide the tool past the weather-stripping.



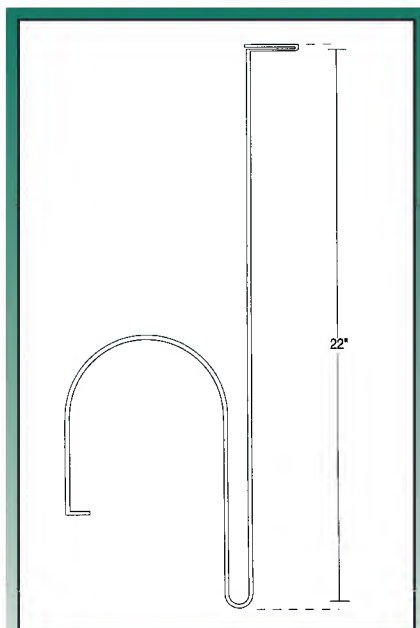
5. Before pulling the tool up into the passenger compartment remove the wedges from the door.

cannot be cloned. In addition, because the system uses a random number each time it is activated, the information transmitted between the key and the vehicle will be different each time the key is used. This makes any signal from the key that is captured by a thief useless for stealing the car.

Some transponder cloning devices will display the message "Encrypted" if you try to read an EST transponder with them. Because of this, many people in our industry have begun referring to the EST system as an "Encrypted" transponder system.

Programming procedures for the EST system are identical to those used on other PATS-2 vehicles. A duplicate key can be programmed into the system without special equipment only if two different pre-programmed keys for the vehicle are available. All other programming must be done with the NGS programming tool. Because the EST transponder system works on an entirely different principal from earlier transponders, the Lincoln LS and the Ford Focus require new key blanks. Older eight-cut transponder keys cannot be modified to operate either the Lincoln LS or the Focus. The differences between the OEM Lincoln LS key and the OEM Ford Focus key are strictly cosmetic. The H74-PT blank can be used for either vehicle.

The Lincoln LS also uses a new type of technology inside the door.



A. The TT-1015 under-window tool.

Quick Reference Guide	
Vehicle: 2000 Lincoln LS	Code Series: 0001X-1706X
Direction Of Turn: Counter Clockwise (driver's side)	Code Series 2000: S00A-S711K
Tool: TT-1015	Lock Manufacturer: Strattec
Lock System: Ford 8-Cut	Bitting: Ignition 2-8, Doors 2-7, Trunk 3-8
Security System: PATS-2 Transponder System (EST or "Encrypted")	Key Blank: Strattec 599902 or Iico H74-PT

The latch assembly uses a single bicycle-style cable to control both the inside handle and the inside lock control functions. This new latch is similar to the latch that has been used since 1995 on the Ford Contour and Mercury Mystique, but it is manufactured by a US company named "Keykert".

One major difference between this latch and the latch used on the contour is that the attachment point for the cable is completely shielded. *Photograph 2*, shows a view of the rear door latch from inside the door. Note that there is no visible bellcrank at the point where the cable enters the latch. This arrangement effectively prevents you from unlocking this car from inside the door with conventional car-opening tools.

Fortunately, either the TT-1015 under-window tool (see illustration A) or the "Jiffy-Jak Vehicle Entry System" can be used to unlock the Lincoln LS. To use the TT-1015 tool, begin by wedging open the weather-stripping near the center of the door. (See *photograph 3*.) The Lincoln LS is equipped with multi-layer weather-stripping and you will need to use caution while inserting your wedges. If the tip of your wedge is not properly inserted between the glass and all the layers of the weather-stripping, the lower layers will "roll" under your wedge. This will interfere with inserting the tool and it may damage the weather-stripping.

I begin by inserting a plastic card or plastic putty-knife between the weather-stripping and the glass. Then I insert the wedge between the plastic card and the glass, eliminating damage to the weather-stripping.



6. Use the tip of the tool to operate the inside lock control rocker.

Once you have an opening into the door cavity, insert the tool with the tip pointed toward the front of the vehicle. It may also be necessary to use the plastic card again to prevent the weather-stripping from rolling under the tool as you insert it into the door. (See *photograph 4*.) Work the tool into the door until you feel the upper bend in the tool pass below the base of the window glass. Carefully pull upward on the tool until you can see the upper part of the tool begin to come up past the inside weather-stripping. As soon as you are sure that the tool will pass the weather-stripping stop pulling up on the tool, and remove the wedges. Failure to remove the wedges may put too much strain on the window glass, causing it to break.

After the wedges have been removed, pull up on the tool until the tip is free of the inside weather-stripping. (See *photograph 5*.) Once the tip of the tool is inside the passenger compartment, use the tool to operate either the inside lock control rocker (see *photograph 6*) or to pull out on the inside door handle itself which will also unlock the door.

The Lincoln LS uses a sash-style door that has a substantial frame all the way around the window. This makes the vehicle relatively easy to unlock with the Tech-Train "Jiffy-Jak Vehicle Entry System" as well as with the TT-1015 tool.

For more information on Tech-Train products call: 800-356-0136; Fax: (850) 476-7410; E-mail: Techtrain@techtrainproductions.com; Web: www.techtrainproductions.com.





Part 2

The 1999 Ford Police Interceptor

by Alan Morgan & Michael Hyde

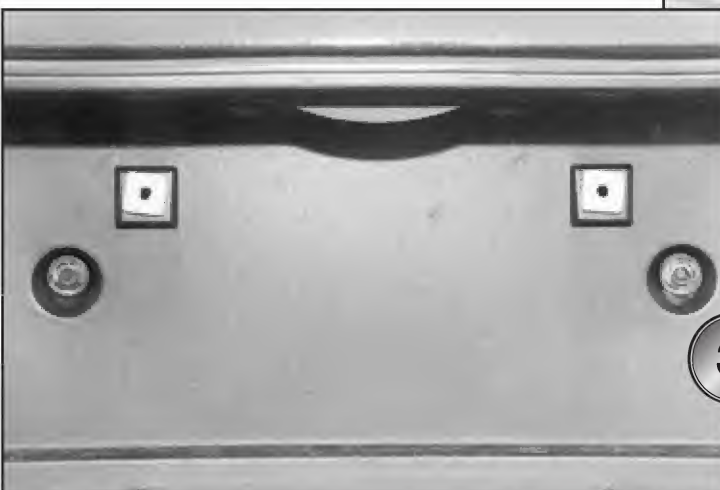
Trunk Lock



The decklid lock cylinder is located to the right of the license plate.



The trunk lock is removed from the outside of the decklid. Therefore the plastic trim on the outside of the decklid must be removed also.



Remove the license plate and behind it you will find two 7mm bolts that must also be removed.

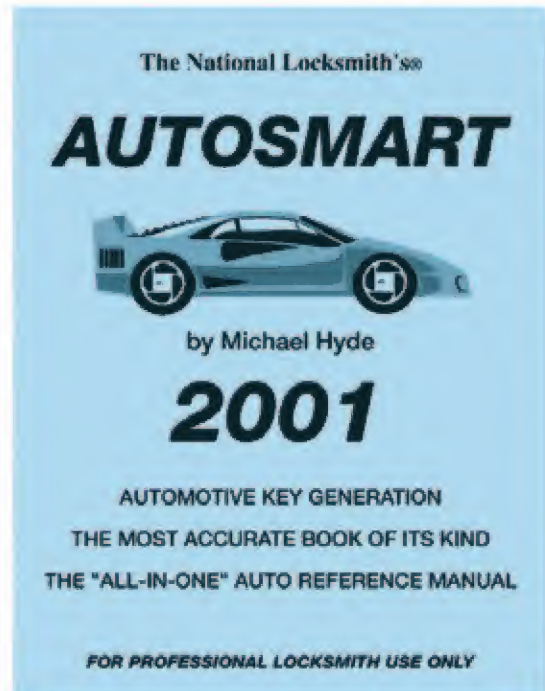


There are two 7mm bolts that hold on the license plate light. Remove the bolts and slide out the light bulb from the lens housing.



There are six 10mm nuts along the outside edge of the decklid trim that must be removed. There are also two more 10mm nuts near the back up lens that must be removed.

AutoSmart



A MUST for every locksmith!

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A view of the plastic light/trim assembly removed.

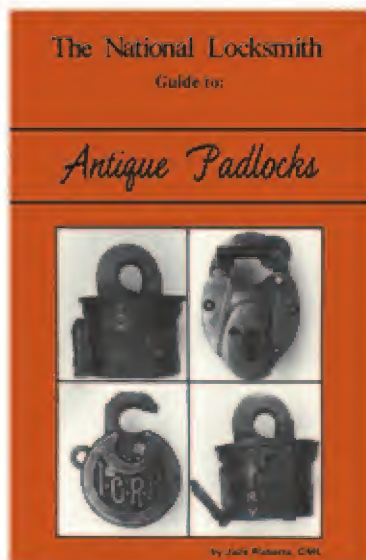


On the backside of the lock housing is a cable linkage connector that needs to be removed. Unsnap it gently to preserve the locking tabs for re-assembly.



The lock assembly is riveted into the decklid by 2 large rivets.

Antique Padlocks

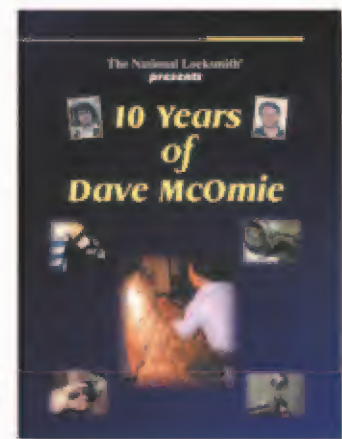


Finally there is a book to give you all the information you need about old interesting locks.

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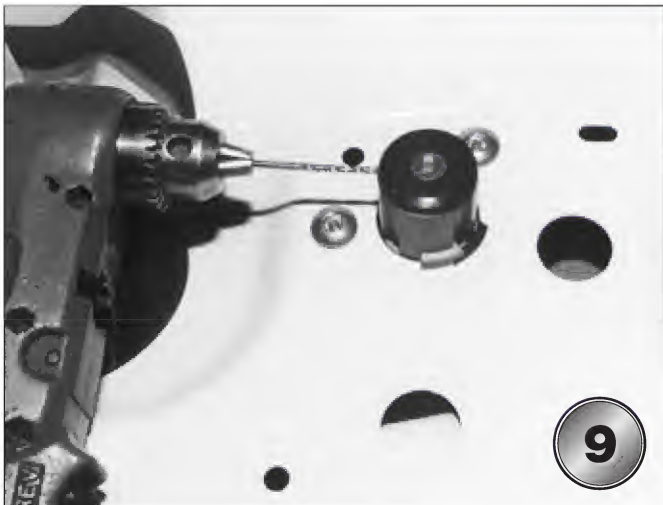
#PAD - 1

10 Years of Dave McOmie

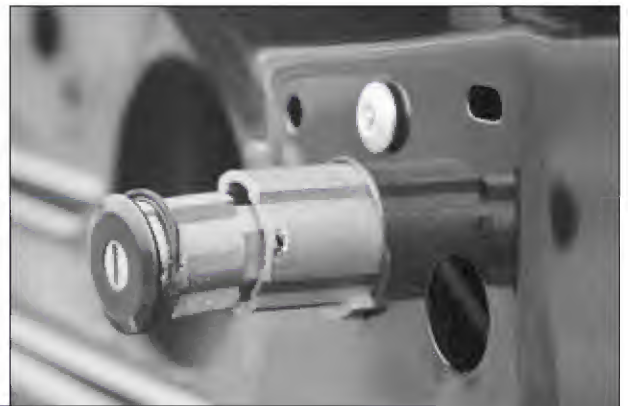


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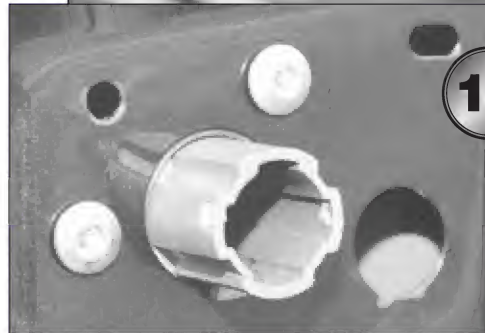
#DM - 10



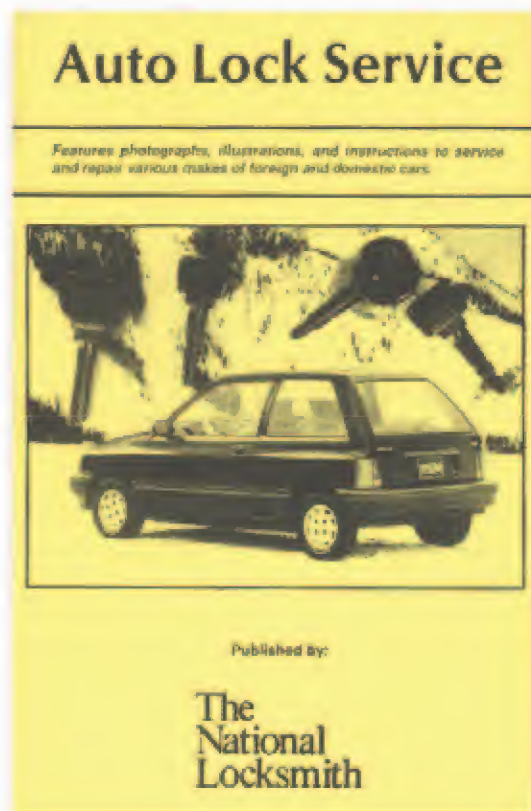
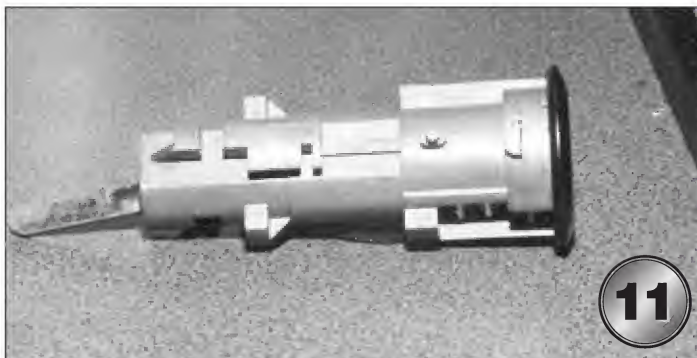
There is a roll pin on each side of the lock cylinder. Drill next to the pins and pry them out.



The decklid cylinder will now slide out.



A view of the lock cylinder. Remove the face cap. The replacement cap part number is Strattec 322534.



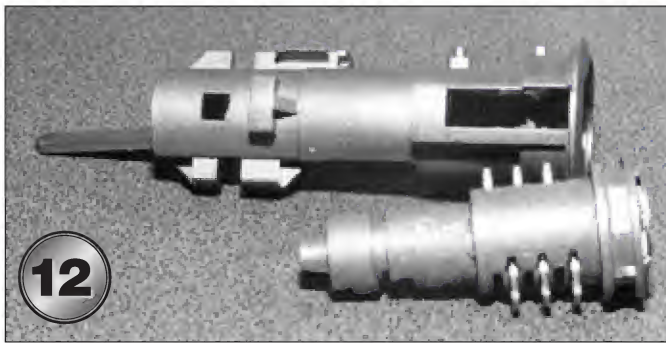
#ALS - 1

Auto Lock Service

Covers opening and service techniques.

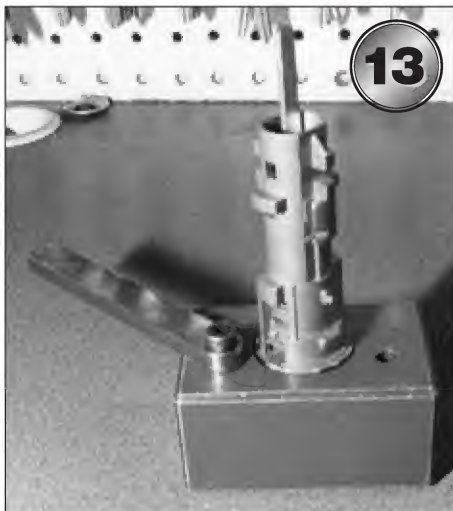
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12

The lock cylinder is warded and the plug must be turned to slide out. The plug contains six tumblers in position 3 through 8.



13

The face caps on the Ford 8-cut locks can be difficult to securely fasten because the tabs are so short. We recommend getting the face cap tool made by Strattec and available from National Auto Lock as part #CAP3, Tel: 800-954-5454.



14

The glove box lock on this car is easy, easy, easy. Looks can be deceiving.



15

Take a Hook pick and insert it into keyway to the back of the lock plug to pull the retainer wafer and then you can pull the plug out. You may have to rake the tumblers to walk the plug out.



16

The lock plug contains three wafers in positions 6 through 8 plus the retainer.

Ask Dave



You asked.
He answered.
This is safe
and vault
Q&A with
an attitude.

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#AD - 1



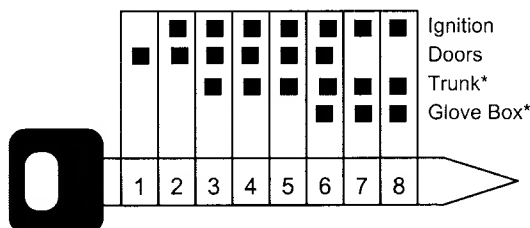
MAKING FIRST KEY

CODE SERIES: 0001X-1706X (without PATS)

WARNING Some early versions of the ILCO & CURTIS Metal-head keyblanks were not made to OEM standards and do not go all the way into the door locks, they stop short by about .040". The angle on the tip is wrong.

Method #1 Use EEZ-Reader in door lock, to determine cuts in positions 1 through 6, and then progression the two remaining cuts in the ignition, for positions 7 & 8. Or, impression/progression the remaining two cuts in the trunk lock. (The EEZ-Reader is sold by H.E. Mitchell Co.)

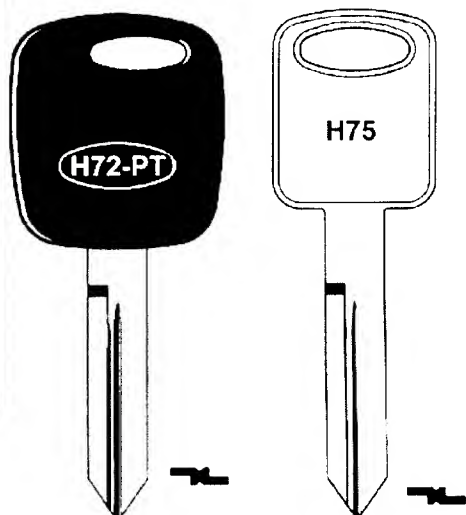
Method #2 Disassemble the door lock to determine cuts in positions 1 through 6, and then progression the two remaining cuts in the ignition, for positions 7 & 8. (Remember to follow M.A.C.S.)



PROGRESSION CHART

To progression the remaining cuts for the ignitions in positions 7 & 8, determine what the depth is in position number 6 that is found in the door lock.

#1 DEPTH			#2 DEPTH				#3 DEPTH				#4 DEPTH			#5 DEPTH		
TRY 1	TRY 2	TRY 3	TRY 1	TRY 2	TRY 3	TRY 4	TRY 1	TRY 2	TRY 3	TRY 4	TRY 1	TRY 2	TRY 3	TRY 1	TRY 2	TRY 3
11	21	31	11	21	31	42	11	21	31	42	21	31	42	31	42	53
12	22	32	12	22	32		12	22	32		22	32	44	32	43	
13	24		13	23	33		13	23	35		23	33		33	44	
23	34		23	24	43		23	24			24	43		34	54	
33	35		33	34			33	34			34	53		35		
			35	44			43	44			35	54		45		
							53	45			45			55		
							54	55			55					



SPACE AND DEPTHS:

A CODE SERIES: 0001X-1706X (New Ford 8-Cut)										
Bow		SPACING						Tip	Cut to Cut: .092	DEPTHS
1	2	3	4	5	6	7	8			
.845	.753	.661	.569	.477	.385	.293	.293			
Bow		FRAMON SPACING						Tip		
1	2	3	4	5	6	7	8			
.405	.497	.589	.681	.773	.865	.957	1.050			
Key Blanks:		ILCO: H75, 1196FD, H72PT				SILCA: FO40R, FO39RT3				
Reed Codes:		N/A				HPC 1200 CM		CX101		
Curtis Clipper:		Cam FORD-5		Carriage FORD-5		ITL MFG:		522		
Pak-A-Punch		PAK-F3				M.A.C.S.:		2		
NOTES: FRAMON—Lay tip stop clip flat against left side of vise, then tip stop key against clip. Set first cut at .405"										

The OM2000 from OSI Security

Part 1

General description and disassembly



by
**Richard
Allen Dickey**

OSI Security Devices opened for business in 1986. Right from the start they specialized in access control. With their desire to provide a product of the highest quality, they insisted that everything they sell be made in the USA. Now in the year 2000, OSI Security Devices remains a leader in the field of battery operated, stand alone, access control devices.

Their newest product is the Omnilock® OM2000. The OM2000, combines electronic access control with a commercial Grade 1 lockset. The lockset is your choice of a Schlage or Arrow cylindrical lockset or a Schlage or Falcon mortise lockset. Either way you get a very tough and reliable lockset design that is extremely flexible.

Photograph 1, show the OM2000 mounted on a display. As you can see the keypad is designed to allow



1. The Omnilock® OM 2000 from OSI Security Devices.

AutoSmart Advisor

Contains virtually every car and part known
to man up through 2000.



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#ASA - 2000



easy access for the user. Since the OM2000 is mounted at the same level as a regular lockset, this design is important. With this lock you will not have to squat or bend over to see what number you are about to press. This also allows the user to easily hide which numbers are being pressed.

Photograph 2, allows you to see that the card reader area has no bottom. This allows anything that falls into the slot to fall right on through and out of the way. If you are worried about the card falling through, it won't. There is a stop inside that is designed to keep the card from passing through.



2. A view through the card reader slot.



3. ADA compliant inside lever.

The OMNILOCK OM2000 is a 2000 user lock that will record the identity, date, and time of the last 10,000 entries. If you have heard of an audit trail, this is it. The Audit Trail records any lock activity including tampering. Three incorrect codes entered in succession put the lock into Lockout Mode and the Audit Report will record the date, time, and print the word "Anti-Tamper". While in the Lockout Mode, only a manager or a programmer will be able to access the lock. The OM2000 also offers a key bypass detect option. Any key entry is recorded in the audit trail by date and time.

Individual users may gain access in any of three ways. They may gain access using user specified codes of four to ten digits in length. They may gain access using existing Track II or Track III magnetic cards or, for higher security facilities, users may be required to enter a code or card followed by a three to six digit PIN.

Another excellent feature of the OMNILOCK OM2000 is its powerful Time Schedule. The time schedule allows up to 144 pre-programmed events per day. For example, the lock can be programmed to automatically open at 7:30 in the morning, or it can be programmed to open and remain open after the first valid code is entered. The latter will ensure that someone is in the facility before the door opens.

Typically a facility would keep their locks in the ID Required mode. This means that the lock will only open when a valid code is entered. Users can be enrolled three ways. The simplest is code-only users or card-only users. A valid code or a valid card is required to open the lock. For the highest level of access control, a code and a card can be required. The user must first swipe their magnetic card and then enter a code to gain access.

Managers may locally change the access level of any lock. Locks may be placed in any of seven access levels ranging from free passage to full lockout.

There are a total of eight user groups. Users can be assigned membership in any or all of the

eight User Groups. Each of these eight groups can be assigned their own unique time schedules. For example, one group can be the “day shift”. The day shift could be granted access only during specific hours. An example would be 0800 until 1700. Another group would be the “night shift”. They might only have access from 1800 until 0500.

Programming of the OM2000 is accomplished by using a Microsoft Windows compatible program. This database program, the OMNILOCK Facility Manager allows programming of individual users and everything else.

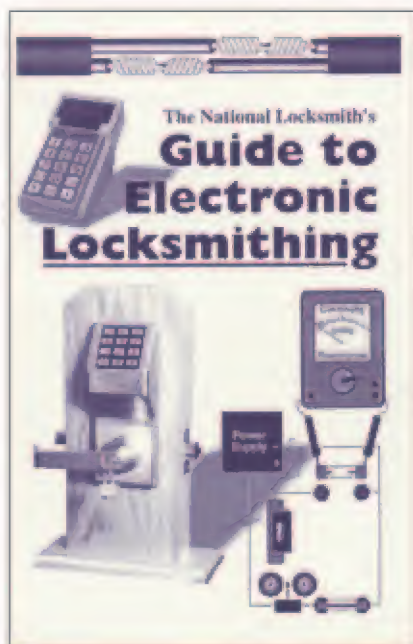
Programmed user data is transferred to a handheld Microsoft CE device and then is transmitted to the OMNILOCK via infrared. Likewise, audit information for the last 10,000 lock events is transmitted from the lock to the handheld CE device for transfer back into the database.

Before we take the lock apart, here is a list of significant product features.

- Up to 2000 users per lock.
- 65,000 user database software



4. Lock with inside lever removed.



Electronic Locksmithing

Everyone knows there's big money in selling, installing and servicing electronic security such as mag locks, electronic strikes, and simple access control.

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#EL - 1

- 10,000 event audit trail.
- Audits Key Bypass.
- Accepts existing Track 2 or Track 3 magnetic stripe cards.
- User codes are variable in length from 4 to 10 characters.
- PIN lengths are variable from 3 to 6 characters.
- Available in GRADE 1 cylindrical (Schlage or Arrow), mortise

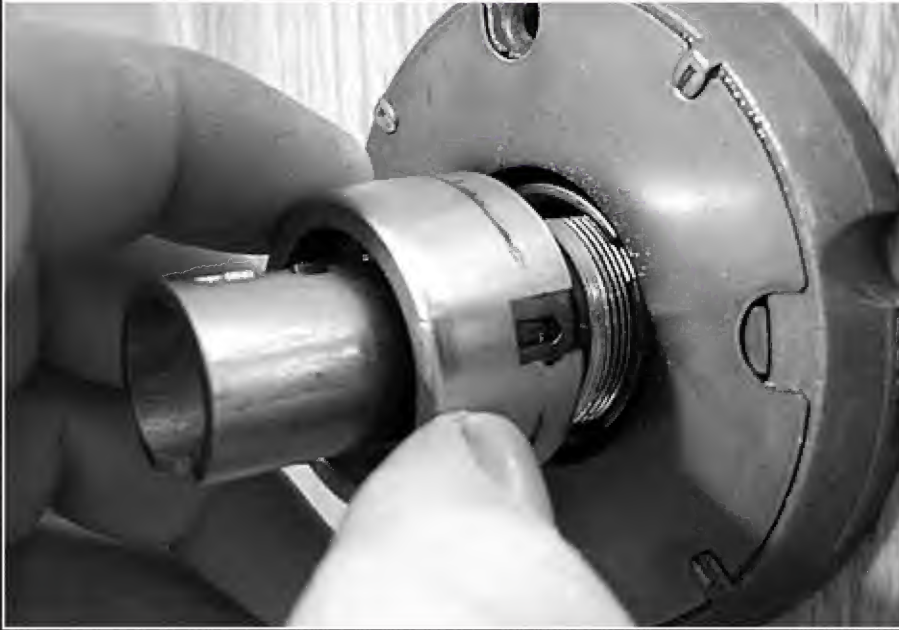
(Schlage or Falcon) and wall mount configuration.

- The handing is field reversible.
- Door thickness from 1 3/4" up to 4" for the mortise locks and an amazing 5 3/4" for cylindrical locks. (Special order only).
- 2 3/4" backset is standard.
- Six finishes to choose from.
- Installs in minutes in a standard

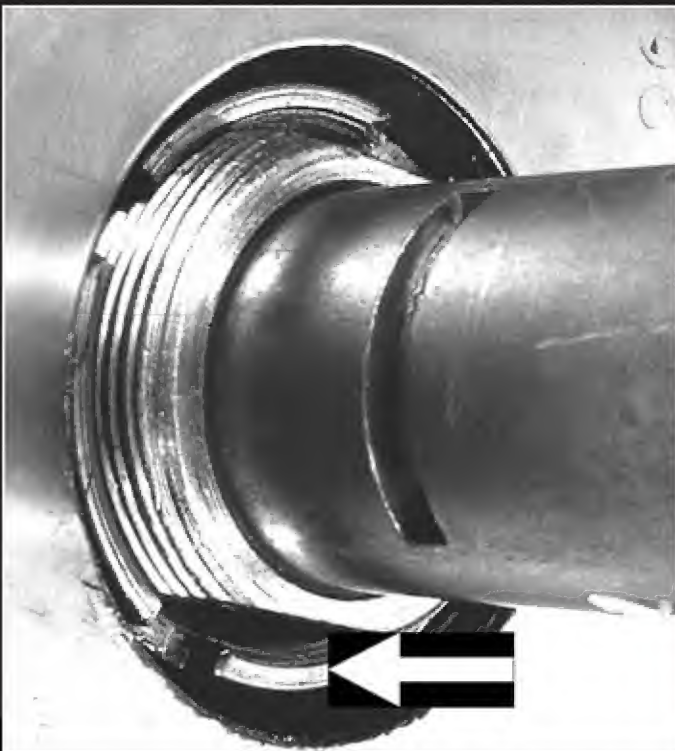
ANSI door preparation. This will minimize installation costs.

- No hardwiring.
- 80,000 operations or 5 years on four AA batteries.
- Made in the USA.
- Certified Year 2000 compliant.
- Rugged die cast steel-zinc alloy construction.
- The time schedule allows up to 144 programmed events in any 24-hour period.
- Allows up to 32 programmed holiday periods.
- Automatic daylight savings time correction.
- Available in a wall mount version for control of magnetic locks, electrified exit devices or any electric circuits.

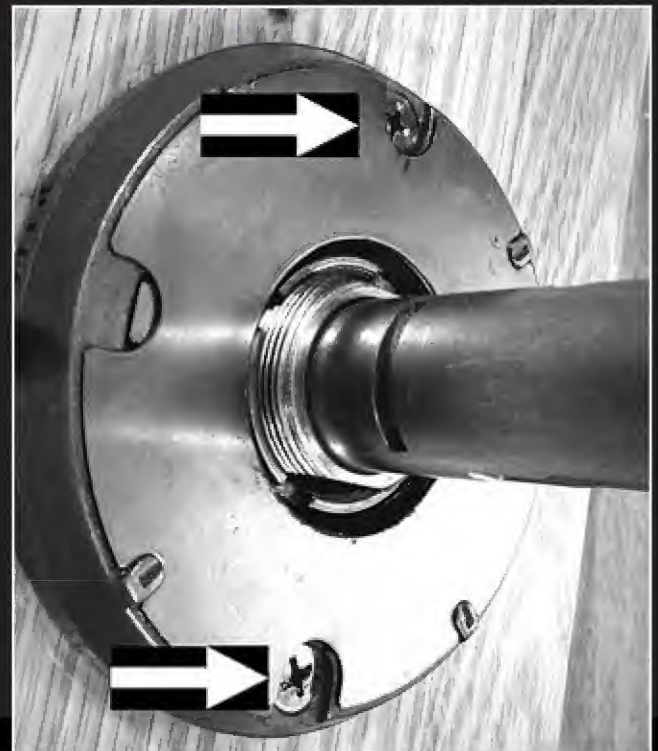
Now that we have covered most of the important stuff, lets take a look inside. In *photograph 3*, you can see the inside lever of the OM2000 that conforms to the 1992 Americans With Disabilities Act requirements. It is removed like any other lever by depressing the lever catch at the base of the lever. With the lever removed, (*see photograph 4*) the inside rose and driver (*see photograph 5*) are easily removed.



5. Removing the driver. This connects the lever to the spring cage.



6. A view of the castle nut.



7. Through bolting screws.

The next step is to remove the castle nut (*see photograph 6*) that secures the spindle to the spring cage. There is a special tool that makes this job easy. The tool comes with the lock. If you don't have this special tool, you can take a small punch to start the nut moving.

After removing the castle nut, there are still the two screws in the spring cage to deal with. These two screws (*see photograph 7*) are used to through-bolt the lockset. This prevents the lockset from spinning if the lever is forced.

With the screws removed, the outside lock assembly (*see photograph 8*) can be pulled free from the door. As you can see, the outside portion of the lockset is enclosed within the housing assembly. The housing assembly has two cover plates that need to be removed to allow access to the inside.

The first cover plate (*see photograph 9*) will provide access to the main control board. The main control board is where you will find the batteries, reset switch and all electrical connections.

Photograph 10, shows the housing assembly with both covers removed. It is easy to see the two wire connection from the circuit board to the lockset. To change the hand of the lock, rotate the lockset 180 degrees in the direction that does not put stress on the two wires.

If that is all you want to do, start putting the lock back together. However, if you are like me, you will want to look at all the goodies that the electronic part of this assembly has to offer. To do this, it is easier if the lock body is removed from the housing assembly.

Removal of the lock assembly requires that the outside lever be removed. To remove the lever, (*see photograph 11*) depress the lever catch. The only difference between the inside and outside lever removal is that the key is required to remove the outside lever.

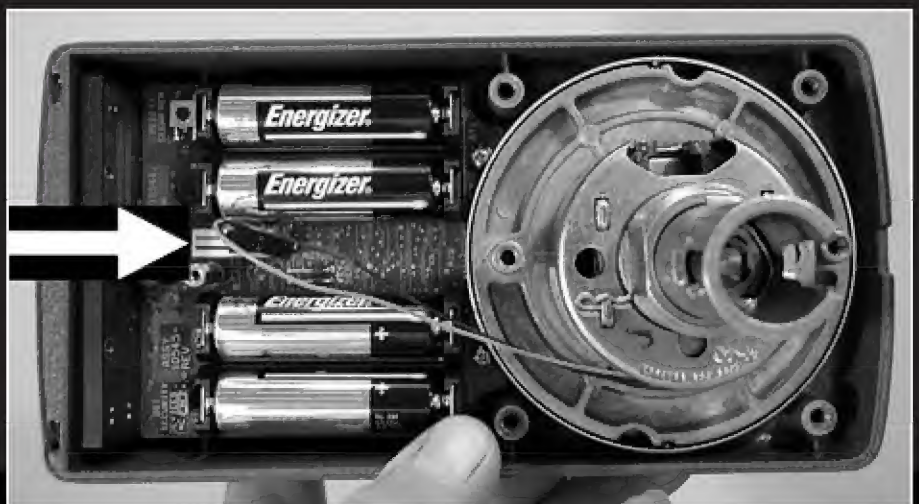
With the outside lever removed, the lockset is easily removed (*see photograph 12*) from the housing assembly. This reveals one of the many things I like about this lock.



8. Housing assembly removed from display.



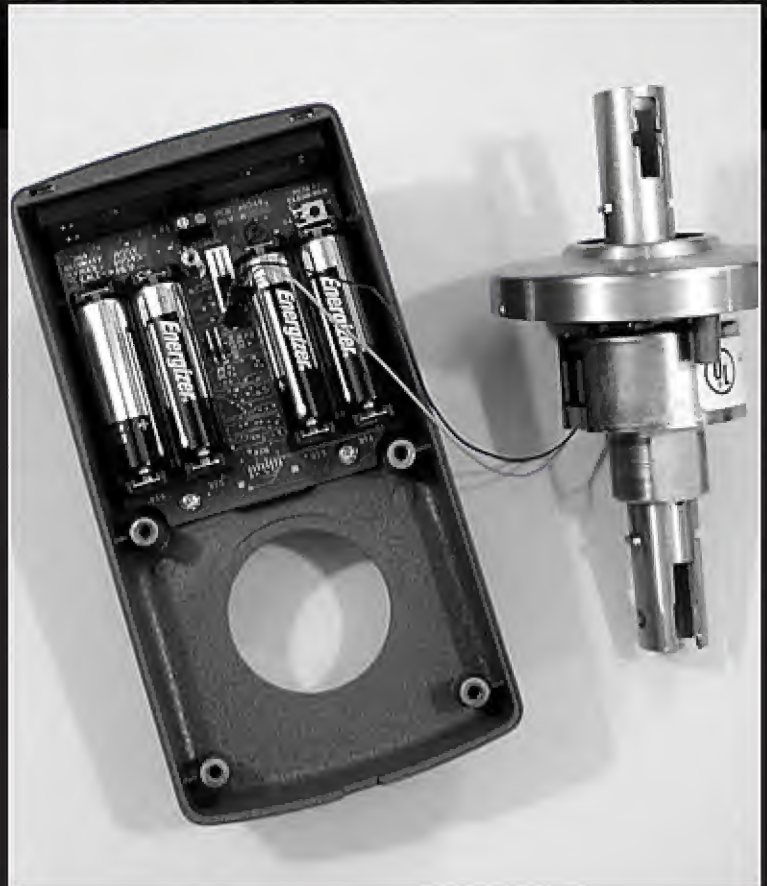
9. Battery cover removed.



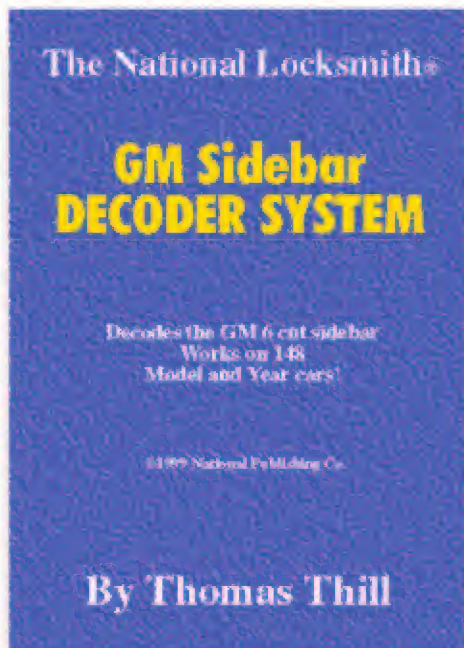
10. Both covers removed. Motor drive connection is marked.



11. OM2000 with outside lever removed. The housing assembly completely covers the spring cage.



12. The lockset is easily removed from the housing assembly.



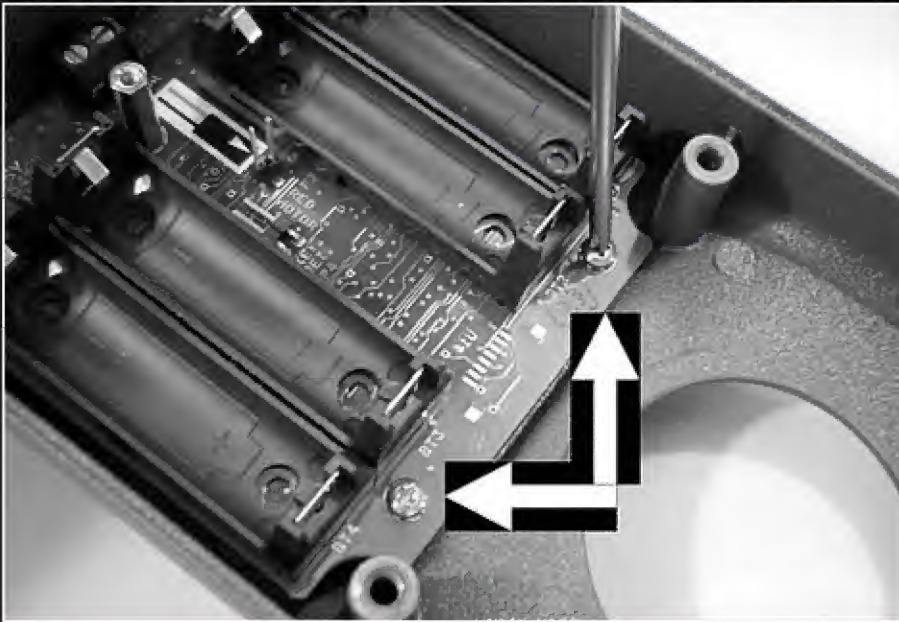
GM Sidebar Lock Decoder System

Tom Thill, the author of a new book, has invented an amazing new way to make keys for six cut GM Sidebar Locks.

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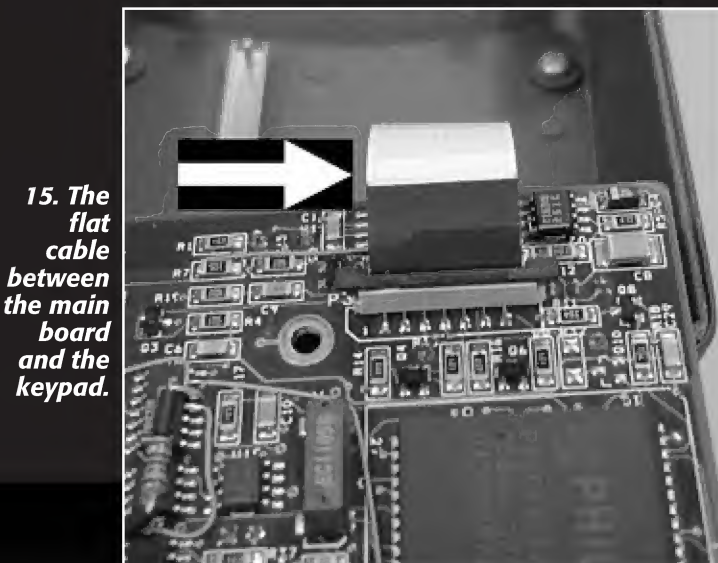
#TT - 1



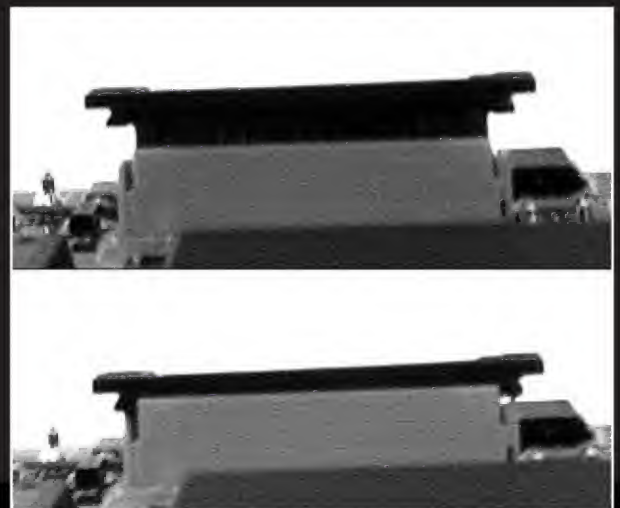
13. Two screws that hold the main board down.



14. Screw post used to attach battery cover. This post also acts as a third screw to hold the main board in place.



15. The flat cable between the main board and the keypad.



16. The flat cable connector in the open (upper) and the closed (lower) position.

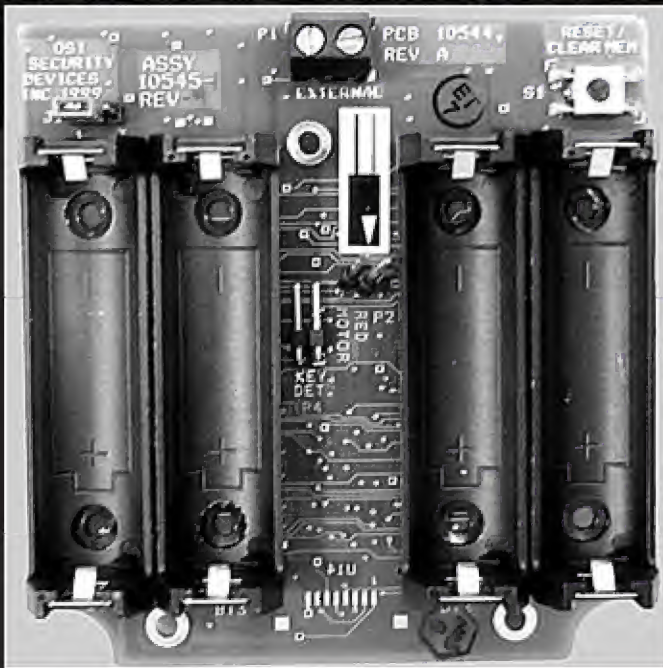
The lockset is removable and does not need to be modified in any way to be used in this assembly.

Now we are getting to the fun stuff. To remove the main circuit board, there are two screws (see *photograph 13*) on the bottom of the board. If you try to remove the board at this point you will find it is still attached somewhere. *Photograph 14*, shows the screw post used to attach the cover. This same screw post is used as a third screw to secure the circuit board. I missed the screw post the first time around. It took a couple of seconds to figure out what was holding the board in place. I felt kind of silly after I found it.

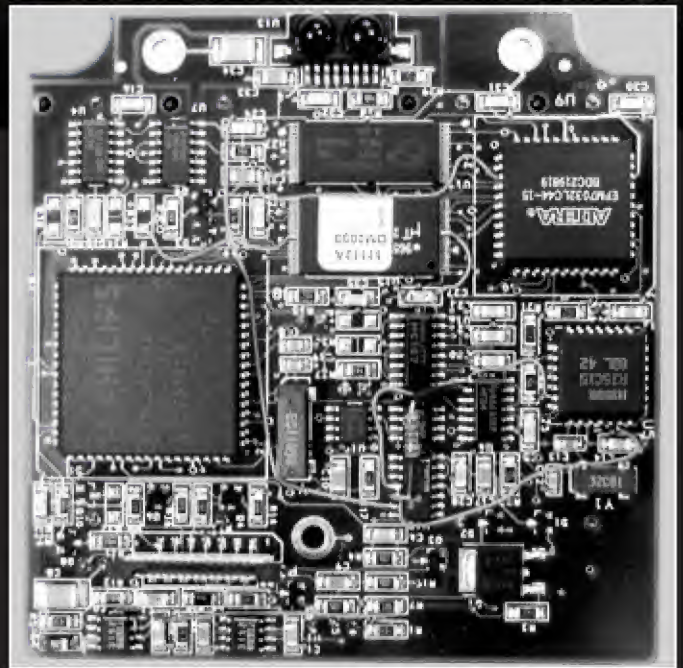
The circuit board is now free to move around but it is still attached on the bottom side with a flat cable. This cable (see *photograph 15*) has one of those connectors that can be a little scary. Don't worry, it just looks scary.

Photograph 16, shows the connector in an open (upper) and closed (lower) position. The little tabs on the side of the connector are used like handles to lift the connector from a closed to an open position. When the connector is in the open condition, the flat cable will easily pull out. Just be sure to put it back the same way when you decide to reassemble the lock.

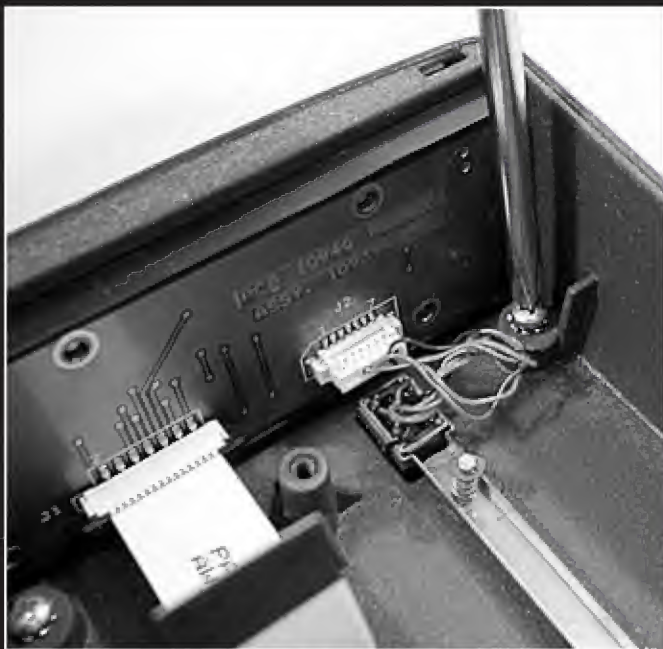
Photographs 17, is the front of the main circuit board and *photograph 18* is a back view. The battery holder is located on the front and the little flat cable connector is located on the back side of the board.



17. Main board front side.



18. Main board back side.



19. Screws that hold card reader cover in place.



20. Card reader cover being removed to reveal magnetic card reader head.

With the main circuit board removed, we now have access to the screws that hold the card reader cover in place. There are four screws (see photograph 19) that hold the cover in place. With the screws removed, the cover (see photograph 20) can be removed. Under the cover the magnetic head of the card reader is visible.

When the cover for the card reader is secure, it retains the (see photograph 21) metal cover that keeps the buttons in place. Lifting

the cover will allow access to the buttons (see photograph 22) and the four screws that hold the keypad in place. After removing the keypad, (see photograph 23) the only thing left inside the housing is the magnetic head for the card reader.

You might be wondering why I am showing you all of this. Can you say "soft drink"? I thought you could.

Nothing is more common than to have a soft drink spilled on something you don't want it spilled on.

Nearly every soft drink on the market will make things sticky. When buttons stick, it is very difficult to enter a code properly. You end up with a trouble call because some person tried to open the door with a computer in one hand, a briefcase in the other hand and a soft drink balanced somewhere in between. If you can clean the buttons and keypad, you may save yourself a lot of time.

The keypad consists of two pieces. A rubber covering and the

21. Keypad before removing cover plate.



22. Keypad after removing cover plate.



23. Housing assembly with magnetic card reader head as viewed from the inside.



24. Keypad with rubber cover removed.


circuit board underneath. The way the rubber cover is attached to the circuit board, it would be almost impossible for water or anything else to find its way between them. However, things we say can't happen seem to happen.

In *photograph 24*, there is a small circle where each button is pressed. The back of the rubber cover is impregnated with a carbon type material that conducts electricity. When you press the button, the impregnated rubber cover is forced to contact the circuit board, shorting the tiny leads on the circuit board. This is how the system knows which numbers are pressed.

This could be a problem area in abusive situations. Dirt or sticky stuff between the circuit board and the rubber cover can prevent a short when a button is depressed or not allow the rubber to separate from the circuit board which makes the system think you are holding down the button. A little rubbing alcohol (70% or higher alcohol content) on a cotton swab will clean things and put you back in service. The manufacturer will probably tell you not to take the lock apart to this level, but there are those of you out there that are fully capable of cleaning a little circuit board.

If you do decide to work at this level, be sure that you take static precautions when doing so. If you are not familiar with the proper procedures to avoid ESD, (electrostatic damage) then please don't take the main circuit board out of the housing. Remember that there is a computer chip (*refer back to photograph 18*) on the back side of the main circuit board. If you zap it, it will never work again. Be careful.

Next month I will cover how the lock is programmed using a hand held device and go through the powerful software package called the Omnilock Data Manager. Until then, have a nice month.

For more information about the Omnilock OM2000, give Rick Rasmussen a call at OSI Security Devices. His number is 1-619-628-1000. You can fax a request to 1-619-628-1001. They also have a nice web site with downloadable information at www.omnilock.com; circle 256 on Rapid Reply. 

LEARNLOK FROM ILCO, PART 1

BY SAL DULCAMARO



Ilco has come up with a surprisingly simple electronic card access lock system. It is not hard wired, so installation doesn't involve major surgery to the door and frame. Programming is almost effortless, with a 200 user capacity and no special electronic equipment (or computers) required. *Photograph 1*, shows a mounted Solitaire 850L mortise lockset. The one shown has a deadbolt and inside thumb turn. The mortise lock is also available without deadbolt in the storeroom function. The cylindrical version comes in



1. A mounted Solitaire 850L mortise lockset.

storeroom function, and it programs and operates virtually the same as the storeroom function mortise lockset. All versions have the option of a mechanical key override, for emergency opening.

Installing the Solitaire 850L Cylindrical Unit

I started out with a standard 2-3/4 inch backset cylindrical prep. The cylindrical lock is supposed to be also available with 3-3/4 and 5 inch backset latches. A paper template is included with slightly different dimension holes

on the interior side of the door (in certain drill locations) than on the outside. I found a few errors on the template including different spacing for mounting screw holes on one side as opposed to the other, and drill sizes incorrectly marked for some holes. I don't know if I got an older version that has now been corrected, but I'd suggest verifying the dimensions before drilling holes. Drill locations are marked in *photograph 2*. Matching locations are marked on the opposite side, but some hole sizes are larger on the exterior side of the door. A hollow door would probably be a bit easier, because you only drill through the thickness of the sheet metal on each side without worrying about drilling a particular depth into the door.

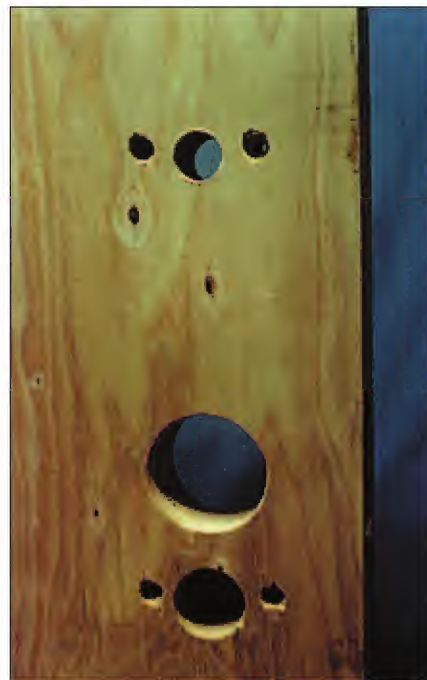
Photograph 3, shows the drilled holes from the outside. The four smallest holes (for the mounting screws) were listed as 7/16 inch on the outside and 3/4 inch deep into the door. The inside holes, in the same locations were listed as 1/4-inch diameter and 1-1/2 inches deep. The



2. Drill locations marked.

specifications indicate that the lock can be installed in doors from 1-3/8 to 2-1/2 inches thick, so you may have to use a bit of common sense to adjust drill depths according to the door used in the installation. I'm guessing that some of the holes can be drilled the larger diameter all the way through, but that is just my impression.

The larger hole on top (between the two mounting screw holes) is 7/8 inch all the way through the door. That hole is to feed the reader cable



3. The drilled holes from the outside.

through from the outside to plug into the slot in the inside housing. The hole directly below the standard 2-1/8 inch diameter cylindrical prep is for the mechanical key override or the drill point. If there is no mechanical key override, the hole should be drilled 7/8 inch all the way through. With the mechanical key override, the inside hole is 7/8 inch, but the outside hole would be 1-3/8 inch diameter



4. Most of the major components of the lock.

drilled 1-1/2 inches deep. I didn't have a 1-3/8 inch diameter bit, so I had to use 1-1/4 inch and slightly ream out the hole. Like any other lock that you



5. A setscrew at the bottom of the outside lock housing assembly.



6. Guide the reader cable through the reader cable hole and mount the housing on the door.

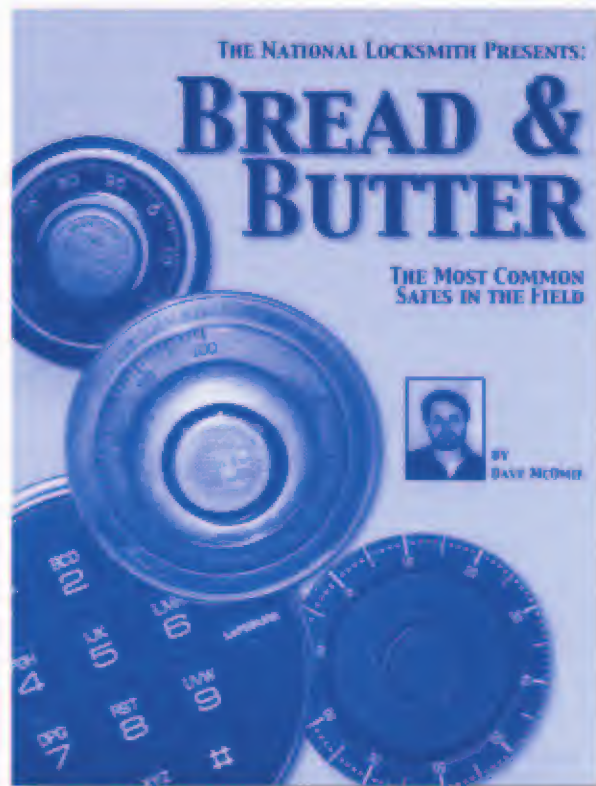
would install for the first time, I will suggest that you read what installation tools are required before going out to a job. It's not fun to have half the holes drilled and tell the customer you have to come back later when you find the correct drill size.

Most of the major components of the lock can be seen in

photograph 4. The latch has already been installed in the lock mount. All versions of the lock will have some kind of mechanical override. The override will be operated by either a key and cylinder or through a drill point. *Photograph 5*, shows a setscrew at the bottom of the outside lock housing assembly. This will use a small format IC (or Best-type) cylinder as the mechanical override.

In the materials that I had, I couldn't find extensive information on the other key override options, but there seems to be standard type

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#BB - 01





7. A view from the inside of the door.

commercial cylinders or Medeco high security as other options. The setscrew uses a 5/64 inch Allen wrench to secure the "UNICAN" medallion that conceals/covers the override cylinder. The tailpiece of the cylinder interacts with a slot in the inside housing assembly. If the particular unit doesn't use a key override, the drill point would be located there. To allow mechanical override of the system, a hole would have to be drilled and a screwdriver or some other tool would actuate the mechanism and engage the clutch. It is designed for emergency use if

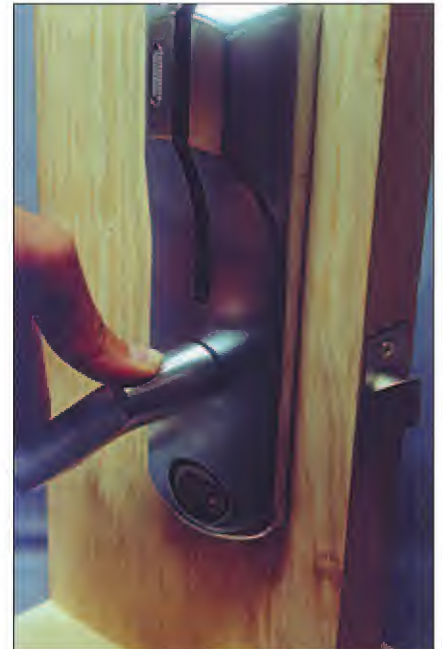


9. Two shorter screws are at the bottom while two slightly longer screws are at the top.

power is depleted and/or the electronics will not allow normal access or entry.

Assembling the Electronic Lock

All locks will have some kind of mechanical override. There will be either a drill point or a keyed cylinder, with a slightly different assembly procedure for each. The hole just



11. The latch remains extended when the lever handle is turned.

below the standard 2-1/8 inch cross bore hole (for the cylindrical prep) will be the primary area of difference. The drill point version will require that a tube shaped security sleeve be fitted into that hole. Hollow doors will require two plastic bushings (one on each side) inserted into the 7/8 inch diameter hole to hold the security sleeve. That step is not necessary with a keyed cylinder override. In either case, the next step would be to guide the reader cable through the reader cable hole (top hole) and mount the housing on the door. (See photograph



8. The inside housing.



10. The clutch should engage and cause the latch to retract when the lever handle is turned.



12. The inside housing cover is attached.



13. The UNICAN medallion will be used to cover the face of the override cylinder.

6.) The latch should interconnect with the latch retractor piece of the cylindrical unit and should not bind. The tailpiece of the override cylinder will fit through the lower hole. A view from the inside of the door. (See [photograph 7.](#))

The inside housing is shown in [photograph 8.](#) The surface shown will make physical contact with the interior surface of the door. The spindle should be positioned correctly for the handing of the door. Just below



14. The medallion has been installed.

the white printed label is the open slot of the override cam. That also should be positioned properly before assembly.

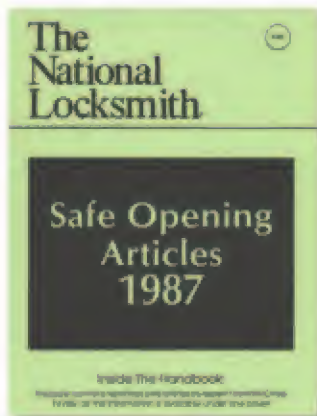
The reader cable should be connected to the inside housing. The various parts should be positioned properly as the inside housing is mounted on the door. The entire length of the reader cable should be contained within the reader cable hole, so as not to damage the cable. The tailpiece of the override cylinder may have to be trimmed depending on



15. A 1/8 inch Allen wrench is used to tighten the setscrew.

the thickness of the door. It should mate with the open slot of the override cam on the inside housing. Four #10-24 attaching screw are meant to hold together the outside and inside housings. Two shorter screws are at the bottom while two slightly longer screws are at the top. (See [photograph 9.](#)) The inside lever handle can be temporarily placed on the spindle to verify smooth operation of the latch while tightening the screws.

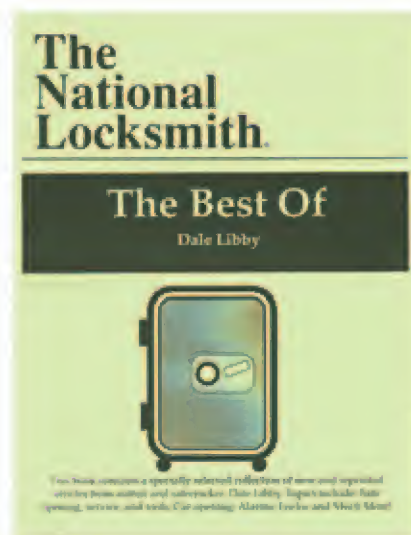
Safe Opening Articles 1987



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#SA - 1

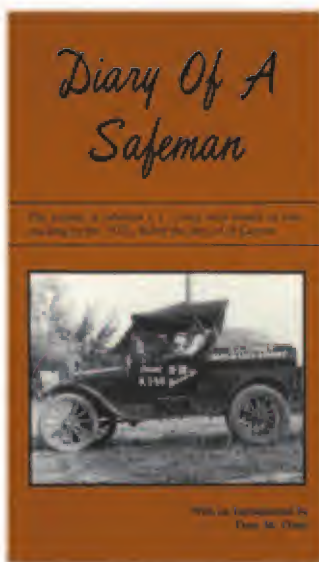
The Best of Dale Libby



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16. The battery pack (with four AA batteries).

Testing the Lock Operation

To verify the proper operation of the override cylinder, an I-Core has been installed in the IC housing. When the operating key is rotated 180 degrees, the clutch should engage and cause the latch to retract when the lever handle is turned. (See *photograph 10.*) When the key is turned back and removed, the clutch should not engage. *Photograph 11,* shows that the latch remains extended when the lever handle is turned. The inside housing cover is attached in *photograph 12.* The UNICAN medallion will be used to cover the face of the override cylinder. (See *photograph 13.*) The medallion has been installed in *photograph 14.*

A 1/8 inch Allen wrench is used to tighten the setscrew seen in *photograph 15,* that holds the insider lever handle securely to the spindle. A tube shaped nylon bearing was fitted within the opening that surrounds the spindle, before the lever handle was attached.

The next test involves the electronic operation. The battery pack (with four AA batteries) can be seen in *photograph 16.* It will be held in place with two end cap screws. The screws are fastened with the 5/64-inch Allen wrench. When the batteries are first connected, you should hear the motor run for a short time. If there is no sound, there could be a problem with the batteries, wiring or the lock itself. Once the sound of the motor is confirmed, the electronic operation of the lock can be tested.

Before any programming is even begun, you should be able to check the electronic operation of the lock



17. Check the electronic
operation of the lock with a
"Test Card."

with a "Test Card" shown in *photograph 17.* The card should be swiped downward in the key track. If done properly, the lock should unlock by allowing the clutch to engage while turning the outside lever handle. There is about a six-second window to retract the latch before the clutch disengages. Once the handle is used to unlock the lock, the clutch will immediately disengage. Turning the handle immediately after (even if six seconds in total time have not yet elapsed) won't allow someone to follow behind and open the lock without using a properly programmed key.

Next month we conclude with the
programming procedures. **TNL**

BEGINNER'S CORNER

Schlage A-10 & A-20 Wafer Knob Locks



by
**Jim
Langston**

The Schlage wafer knob locks are almost obsolete now, they have not been made for several years, however, many are still in use today. Schlage wafer tumbler locks, equipped with "W" section keyway units, have stamped stainless steel keyways and tumblers plus stainless steel springs for strength and highest corrosion resistance. Two nickel silver keys are furnished with each keyway unit. Keyway caps are made of brass, bronze or stainless steel. Keyway units can be keyed in 1120 different possible key combinations. They can

also be masterkeyed, grand masterkeyed and construction keyed.

This month we will cover how to service this obsolete, but still functioning Schlage wafer lock.

Photograph 1, shows what this knob lock looks like. The key is double-sided and there are wafers on both sides of the plug. Wafer tumbler key blanks are furnished in either "W" or "A" sections. Each section has three types of key tips; "0", "1", and "2". Type "0" is usually used as a master or grand masterkey. Type "1" is for use with series 10 keyway units and type "2" is for use with series 20 keyway units. Sections "W" and "A" are not interchangeable nor is there a common key that will enter both sections. The "W" section broaching is shaped like a "W". The "A" section broaching is shaped more like a "U".

The first thing you need to know is how to take the lock apart to make keys. *Photograph 2*, shows how to remove the back of the lock. The backside of the lock pictured in this photograph is called a housing slide. You must remove a small cotter pin and remove the housing slide. Next bend the tabs back on one side of the frame with needle nose pliers or regular pliers. (See *photograph 3*.) After you have done this you will remove the slide and springs as seen in *photograph 4*. After removing this you may remove the



Photograph 1.



Photograph 3.



Photograph 4.



Photograph 2.



Photograph 5.



Photograph 6.

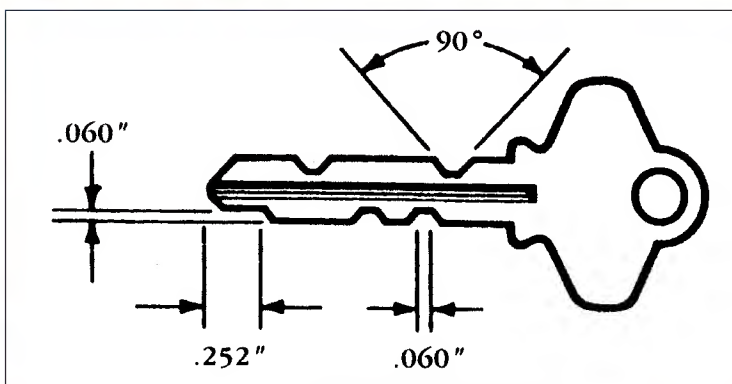


Illustration A.

wafer tumbler. (See photograph 5.)

Photograph 6, shows the wafer tumbler core and key. In photograph 7, you can see the positions of the wafer tumblers with an uncut key inserted. You will note the wafers are sticking beyond the plug. These will go down to the shear line after the key is cut. (See photograph 8.)

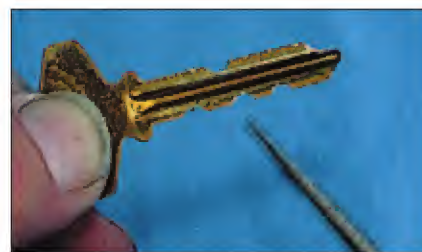
These locks only have one depth. (See illustration A.) The only way to change the combination on these



Photograph 7.



Photograph 8.



Photograph 9.

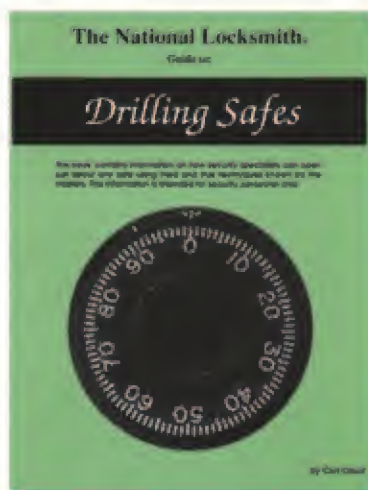
Safe Deposit Box Service



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#SDBS - 1

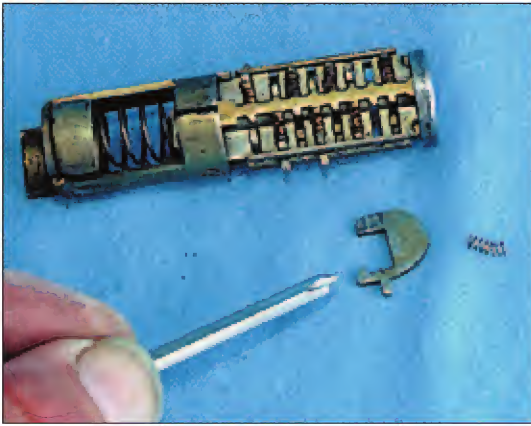
Drilling Safes



One of the most expert safemen in the country, Carl Cloud has written a very important book on safe opening.

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#DS - 1



Photograph 10.



Photograph 13.



Photograph 11.

After you have made the key that operates the cylinder, replace the cylinder back into the knob. You may have to press down the wafers one at a time while putting pressure on the back of the plug. (See photograph 11.) After the plug is in, you will need to replace the slide and springs back into the lock body. (See photograph 12.)

Next replace the plunger button spindle back into the slide. (See photograph 13.) Then replace the housing cap and cotter pin and the job is complete. (See photograph 14.)

Make sure the key operates properly before installing the lock and



Photograph 12.

locks is to reposition the wafers. To make a key, simply cut in the appropriate spacings containing a wafer. (See photograph 9.)

In photograph 10, you can see what the one of the wafers look like out of the plug. Notice that the springs are very small. Care must be taken not to lose them.



Photograph 14.



Photograph 15.

you're in business. (See photograph 15.)

The Schlage wafer lock was also available construction keyed. Construction keying provides temporary operation of designated masterkeyed or grand masterkeyed locks during construction. An insert is assembled in the wafer keyway preventing use of permanent keys and permitting only the construction keys to operate. When desired the inserts are removed with an extractor key. After removal only the permanent keys will operate. Construction keying is only available in the "W" section.

This is a very easy lock to make a key for or pick open since there is only one tumbler depth used. It should present no real problem to service and although you may not see a lot of these locks still around, you will, no doubt, eventually encounter the infamous Schlage wafer lock.

TNL

McGunn



1. Bottom door of a McGunn double door depository. Small hole to the left of the single keyway is the opening hole, located 1.75 inches to the left and even with the top of the keyway.

McGunn safes are quite popular in the Chicago area. The unit that I work on most is the over and under depositories. Some have drawers and some have deposit slides. It can be fitted with either a small "T" handle or the newer small spoke wheel models. (Reminiscent of a large bank vault wheel.) *Photograph 1*, shows the bottom door of one unit in which the key lock malfunctioned.

These safes have gone through an evolutionary sequence that has only benefited the customer as well as the safecracker.

These depositories are plate steel units and made for the day storage of valuables and change. This depository safe is not designed for use as a burglary or fire unit, but still is. One of the inherent values is that both doors, the upper and lower, is made the same. One door may be larger, but the locking bolts and locks are in identical configurations.

Another common factor with these units is the secondary key lock. The first locks used were large pin tumbler cam type locks with a

hooking tailpiece. One of the problems with this lock was in the duplication of keys. Duplicate keys were hard to make because the blanks were imported. If you should encounter one, an old Volvo single sided key blank will work without much modification.

The key lock on this pictured unit is an Ilco safe deposit lock. We will see a picture of the lock with the extension "T" tailpiece later. The combination lock is a standard Ilco 6700 series.

The first combination locks used were made so that an extended bolt had to be used to block the large handle cam. The LaGard combination lock with a longer bolt was quite popular. Next came an extension bar screwed to the end of the lock bolt that did the actual blocking of the handle cam. Now a standard combination lock, Group II footprint, with the standard lock bolt length and size is incorporated into this locking system.

Before we move on to the inside of the door, look closely at *photograph 1*. In line with the top of the empty safe deposit lock keyhole and precisely 1.75 inches to the left, is the hole I used to open this unit. It is a 3/16-inch hole drilled through mild steel plate.



by Dale W. Libby, CMS

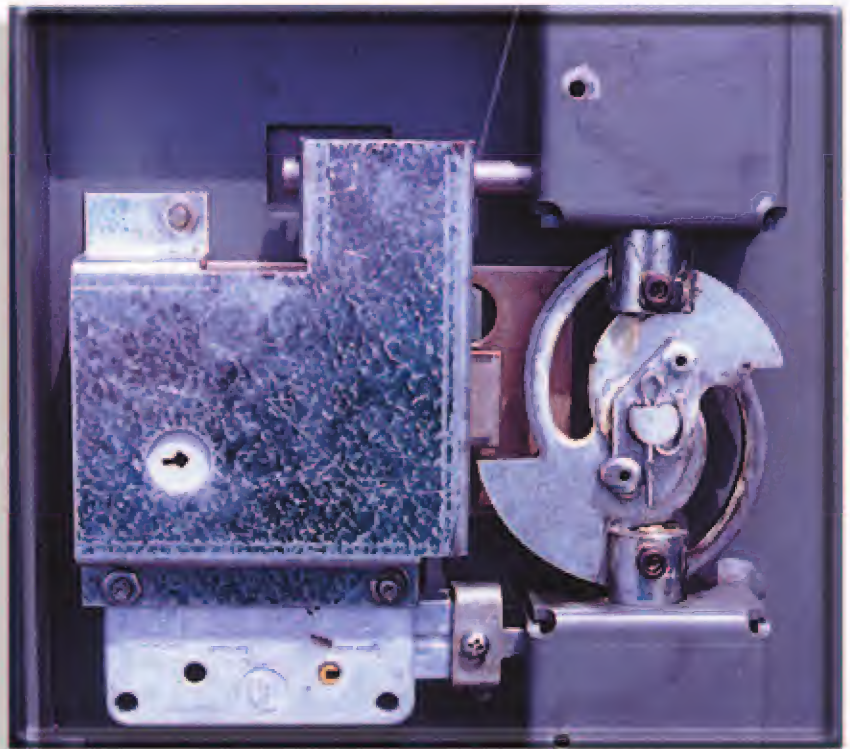
around

Most of the improvements of the safe occur on the inside. *Photograph 2*, shows the handle cam, the combination lock and the key lock position. The door locks with two 1-inch bolts at the top and bottom. A standard combination lock bolt blocks the handle cam. Just below the combination lock is the single horn (nose) safe deposit lock with "T" extension attached.

The really good thing about this picture is that it shows the large steel relock plate that covers the entire combination lock and the top of the safe deposit lock. Two screws of the safe deposit lock hold the plate in position at the bottom, and a single screw holds it down at the top. It is simple and diabolical in its elegance. If the lock, combination or the key lock is punched, this plate will set off a strong relocker, which will lock the upper bolt. It fires through a hole in the bolt and holds it securely when activated.

Photograph 3, is a close-up of the relocker. There is a slot on the left side of the relocker that the cover fits into. (As viewed from the back of the safe door.) It does not take much to fire this relocker. There is no double locked or pinned mechanism on this device. It can be pushed back from the side, drilled, probed, or cut off to deactivate from the front of the safe. The relock bar can be found about 2-inches above the centerline of the combination lock bolt.

The older type of relocker consisted of a spring-loaded plunger, which was attached to the combination lock by means of a braided looped wire. This wire or cable was attached to the lock cover that was cut out specially to accept the loop at the end of the wire. This



2. Cover removed on back of door. Relocker is at the top horizontal position over combination lock. Single key lock is at the bottom. Punching either lock will set off the relocker which fires into top locking bolt.

relock system was a real pain to reset after working on the lock. If you ever had to replace the lock, special work was needed to hand file the cover to accept the old configuration. Many times this wire system failed due to incorrect servicing and the relocker was needlessly fired at inopportune moments.

Yes, I will get to the opening, but I am saving it for the end. *Photograph 4*, shows the Ilco safe deposit lock with the tailpiece extension. There is already a hole drilled in this lock. It takes the place

of the S&G 4444 type lock used on A&B safes. It is important to use the exact replacement for reasons to be discussed. This picture also shows the relocker in the fired position.

The call to open this safe came when the office personnel at a large hardware chain could not get their change out. The combination lock was opened once a day in the morning and closed at night. During business hours the managers and office staff used the safe deposit lock to gain quick access to the safe. The key would not work. It turned just fine, but the bolt would not

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#FD - 8

**FORD 8 CUT
DECODING
KEY SET**

retract. The safe combination lock worked fine.

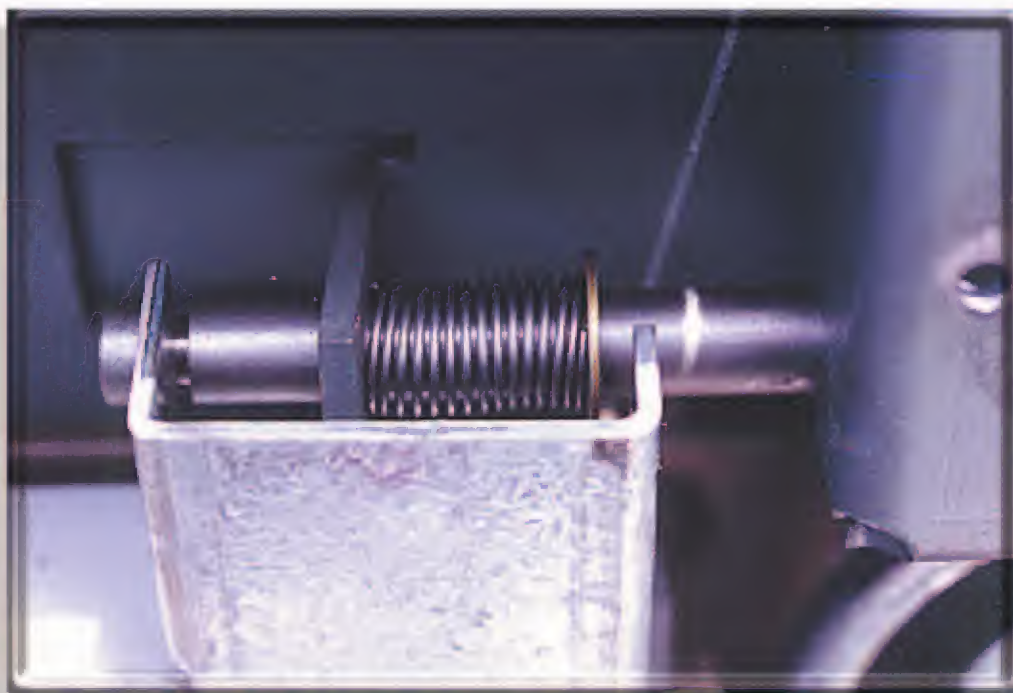
I could have pulled the nose of the lock at first, but I wanted to wait until I tried my initial method. I measured from the bottom safe compartment that could be opened for the "T" connector and transferred the measurements to the top. It was in line with the top of the keyhole about 1.75 inches to the left. I drilled here and came out precisely where I wanted to. When I turned the key to unlock, the bolt and extension did not move, but when I locked and removed the key, the bolt bumped a little.

This meant that the bolt was broken. The key and the levers were all right. The bolt had broken at the point where the foot of the trunion retracts the bolt. I had seen this before. It is the weakest part of the lock that takes all the pressure from repeated openings. To open the safe door, I turned the key to the right and probed the bolt through my small hole. It worked perfectly. The spoke handle turned and the door was open.

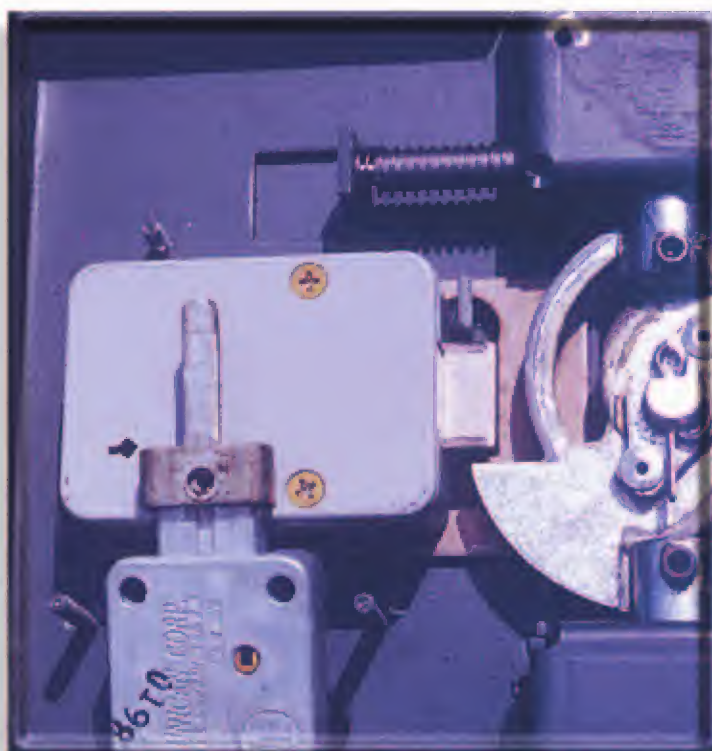
When I received the replacement lock I first removed the double horned cover from the lock. I then removed both sets of lever tumblers, both the guard side (furthest away from the end of the bolt) and the renter's set of levers. Since the new lock guard horn looked better than the old lock, I choose to cut off the guard horn on the new lock cover. I then put the old renter's levers back in the new lock. By doing this, I would not have to issue, cut or stamp new keys for the employees. A time and money saver. I had to use the Ilco lock levers in the Ilco lock. The S&G levers do not interchange with the Ilco Levers. I plugged my probe hole and checked the combination lock for alignment and screw tightness.

Open, Probe, and Prosper.

TNL



3. Close up of relocker held in locked position by back cover plate. The relocker bolt is located 2-inches above top of lock bolt.



4. This shot shows what happens to the relocker when the back cover is removed. It also shows the locking extension that must be attached to the Ilco single nosed safe deposit lock. This extension goes through a hole in the bottom bolt when the bolt is thrown and the flat safe deposit key is removed.



THE CASH STATION

by Mark Daniel

NCR

ATM Manufacturer
NCR 5085 ATM

ATM Model #
0200-M291 (CLASS 5085)

Safe Size
23-1/2" Wide, 32-1/2" High

Door Size
22-1/2" Wide, 31-1/2" High

Handle Type
Integral with dial ring.



Dial Location

Left side of door.

Number of Door Locking Bolts

4

Door Locking Bolt Locations

Upper and Lower bolts are 8" from opening edge. Hinge side and opening edge bolts are 15-3/4" down from top of door.

Door Locking Bolt Diameter

5/8"

Door Thickness to Bolt Center

1-7/8" from face of door.

Door Thickness to Back of Lock

2-3/4"

Combination Lock Type

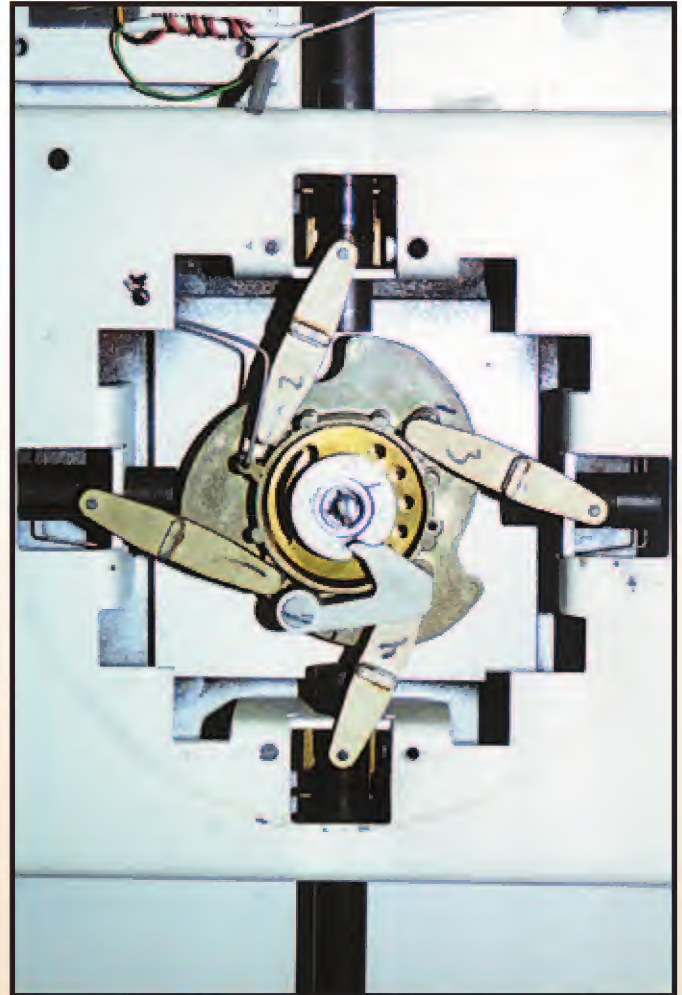
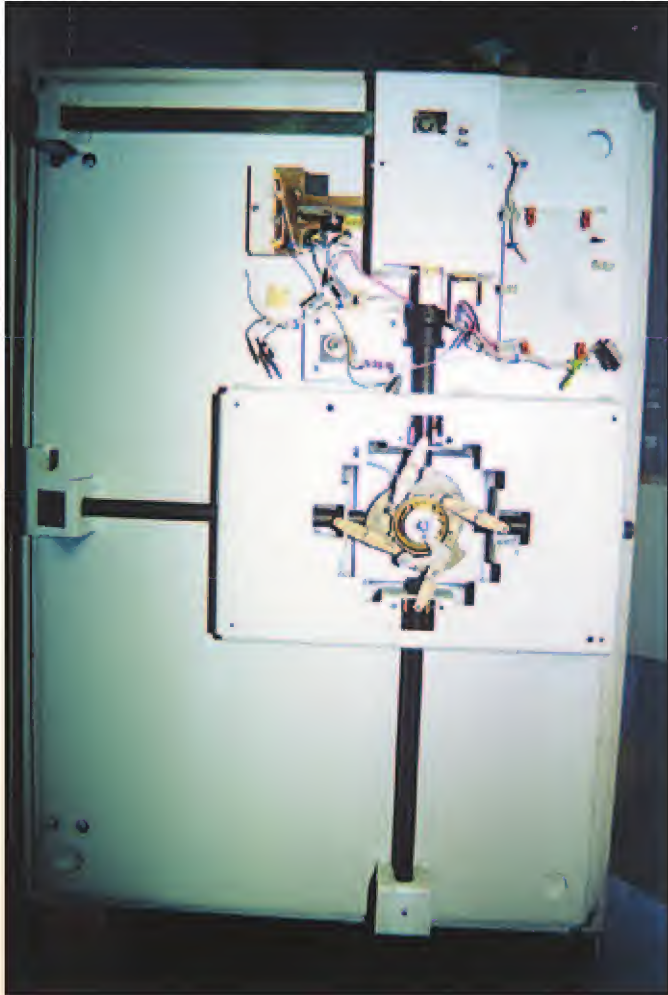
LaGard 2500 Series

Combination Lock Description

3 Wheel key changeable.

Number of Wheels

3



NCR

Driver Location

Rear

Lock Handing

N/A

Drop-In Location

45

Combination Lock Opening Procedures

4 x L to first number. 3 x R to second number. 2 x L to third number. 1 x R until dial stops.

Combination Lock Drill Point

7/8" out from dial center at 45. Align wheel gates.

Combination Lock Relock Trigger Type

N/A

External Relock Device Type

The top and bottom locking bolts have guillotine style flat metal bars that drop into a notch cut into the locking bolt. The left and right locking bolts have a

wire spring type relocker which also drop into notches cut in the locking bolts.

External Relock Device Drill Point

The top relock device is 3-1/2" up from dial center and 1/2" either side of dial center. Hook and pull to release. The bottom relock device is 3-1/2" down from dial center and 1/2" either side of dial center. Hook and pull to release.

The left relocking device is 3-1/2" left of dial center and 1/2" up or down from dial center. Hook and pull to release. The right relock device is 3-1/2" right of dial center and 1/2" up or down. Hook and pull to release.

These relock devices can be difficult to neutralize and may have to all be neutralized simultaneously to release.

Special Notes

Be patient, these locks can be a pain to service or open.

The 1993 Ducati Monster



by
John
Blankenship



1

The Ducati Monster debuted in 1993 and popularized the naked motorcycle look. The Monster 900cc V-twin engine, good handling and rugged good looks have made it Ducati's best selling model. Originating a key for this bike is almost too easy.



2

The ignition/steering lock is mounted on the frame immediately in front of the gas tank. It is the only lock on the bike that has the code on it.



3

You can see the back of the ignition lock if you look up from under the front of the motorcycle. By moving your head around you will be able to see the code stamped on the back of the lock. The back of the lock is circled in the photo.



4

The switch that is mounted on the back of the lock by two shear head bolts is in the lower part of the photo. The code is stamped into the back of the lock in the upper part of the photo. The code is B113242 and is large enough to be easily read when you look up from under the motorcycle. The other number, 3119, has nothing to do with the code.

5

The code, B113242, is direct read tip to bow. Code cut a KW14 blank with cuts of 242311 bow to tip and you will have a key that will operate all the locks on the motorcycle. The code series is B111111-B444444 and is also used on some 1979+ Kawasaki models. This blank and code series is still being used on Kawasaki Vulcan models.



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#GM - 2



6

To remove the ignition lock it is necessary to remove the seat. The seat/helmet lock is located on the right side of the motorcycle at the rear of the frame. There is no code on this lock. The normal way to unlock the seat latch is to insert the key and pull up on the lever under the lock. This will turn the plug about 15 degrees clockwise and release the seat. You can turn it with the key but there is a strong return spring and the key would break if done repeatedly. You can also pick the lock while using the lever as a tension wrench.



7

Once you have pulled up on the seat lock lever you can raise the rear of the seat and pull it back and off the motorcycle.



8

Unlatch the front tank latch that is mounted on the front of the gas tank. You can see it unlatched in photograph 2. Then unhook it and raise the front of the tank up. It is hinged on the rear and will pivot up. Raise the tank prop rod that is attached to the left side of the frame and support the gas tank with it.



9

Remove the air box cover and air cleaner to make room for the ignition lock to be dropped down for removal. There are four spring latches securing the cover, two on each side. Use a screwdriver to pop them loose as shown. After removing the cover and air cleaner, plug both carburetors with a rag to prevent anything from falling into them.



10

Use a 5mm hex wrench to remove the two hex bolts that hold the lock cover on and remove the lock cover.



11

Insert the 5mm hex wrench into the lock mounting bolt from underneath. Use a 12mm wrench to remove the long nut and then remove the bolt. Repeat the process with the nut and bolt on the other side of the lock. The lock can now be pulled down and out of its mounting bracket.



Ignition/Steering

Part Number 65240042A
Price \$147.50

Gas Cap

Part Number 89540011A
Price \$150.25

Seat

Part Number 59920051A
Price \$58.50

Codes

B111111-B444444

Blank

Ilco KW14, Curtis KA18, Silca KW14.

Spacing

1=.315 2=.413 3=.512
4=.610 5=.709 6=.807

Depths

1=.295 2=.276 3=.256 4=.236

Card Number

CMC51

ITL Number

260

Curtis

KA-1 cam & KA-1D carriage



12

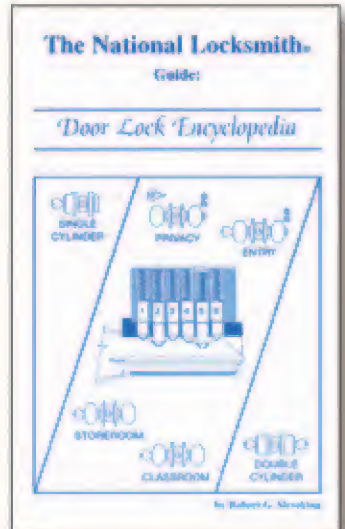
The gas cap lock can be picked 90 degrees clockwise against spring pressure and opened if necessary. There is no code anywhere on it.

This is a Japanese type gas cap and appears easy to disassemble by removing the two Phillips screws on the bottom side. Every gas cap of this type that I have ever disassembled has had 5 wafer tumblers in it. After obtaining the 5 cuts from the gas cap it will be easy to progress the one remaining cut in the ignition lock.

I checked out a couple of 2000 Ducati Monsters on the showroom floor. The locks are still the same as on this 1993 model except the code is no longer on the back of the ignition lock. I don't know what year they stopped stamping the code on it. If there is no code you can disassemble the gas cap, read, or impression. The locks are available at Ducati motorcycle dealers.

TNL

Door Lock Encyclopedia



The ability to remove a lock from a door, disassemble the mechanism, and remove the lock cylinder for service is not always a simple straightforward task.

CLICK HERE TO LEARN MORE



#DLE

Tubular Locks

by Bob Sieveking

Part Five



Continuing our series on tubular locks and the picks used to defeat them, this month we take a look at the PickMasters, LEE and Peterson Pro-1 tubular picks.

- PickMasters Tubular Pick -

PickMasters manufactured a unique tubular pick. *Photograph 1*, shows the PickMasters tubular pick. Its design departs from those previously covered in that there is no locating key inside the pick tip. This pick will manipulate Left, Right, or Center configuration 7 pin 137 cylinders.

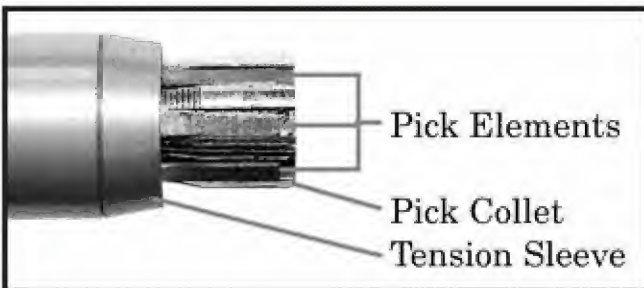
To apply turning torque to the rotor, the pick tip grips the nose of the cylinder. The pick tip, as you see in the photograph, is a three element collet. After inserting the pick into the keyway, the collet lock nut is tightened. This draws the collet into a taper, closing it over the nose of the cylinder. The collet grip offers an additional advantage. By pulling on the nose of the cylinder, the rotor is pulled away from the barrel, increasing the width of the shear line by a few thousandths. This clearance distance is used to impression the combining pins, without lifting the pick out of the keyway.

Tapped holes around the handle accommodate setscrews to lock the

setting of the pick after the cylinder is picked. This preserves the settings of the pick elements. The tension sleeve slips over the pick elements and compresses them against two neoprene "O" rings to give preload to the pick elements.

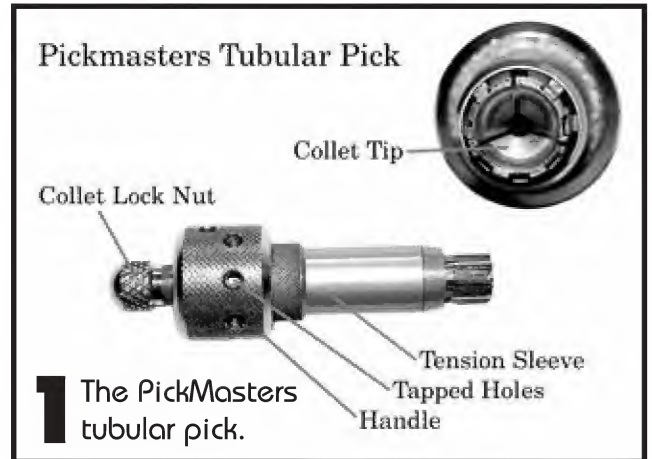
Photograph 2, shows a detail of the pick tip. The tip is tapered to fit the tapered hole in the pick body. As the collet is drawn up, the jaws of the collet close. The pick elements slide in grooves in the pick tip. This tip can be removed to allow the installation of an eight pin tip. There are a number of tips for this pick that were made for many different cylinder configurations.

This pick is decoded from the top. In *photograph 3*, the pick elements rise up from the top of the pick handle, as they are pushed rearward from the pick tip. Depth indicating grooves in the side of the collet locking nut can be used to decode the pick.



A detail of the pick tip.

2

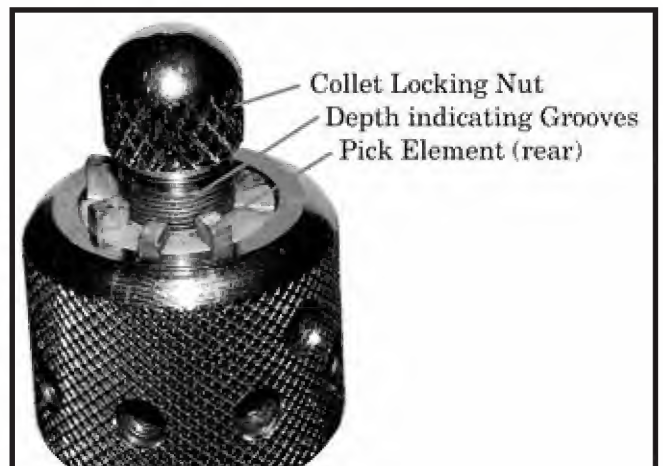


1 The PickMasters tubular pick.

- Using the PickMasters Tubular Pick -

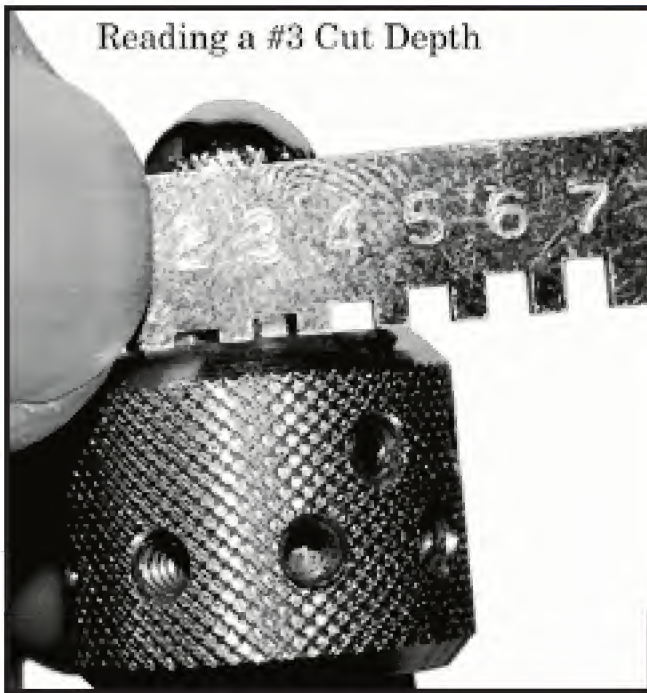
Push the top of all of the pick elements forward to bring them even with the top surface of the pick handle. This will set all of the pick elements at the "0" depth position. Loosen the collet locking nut and push it forward to eject and open the collet tip.

Inspect the lock cylinder to find the position of the rotor. Identify the

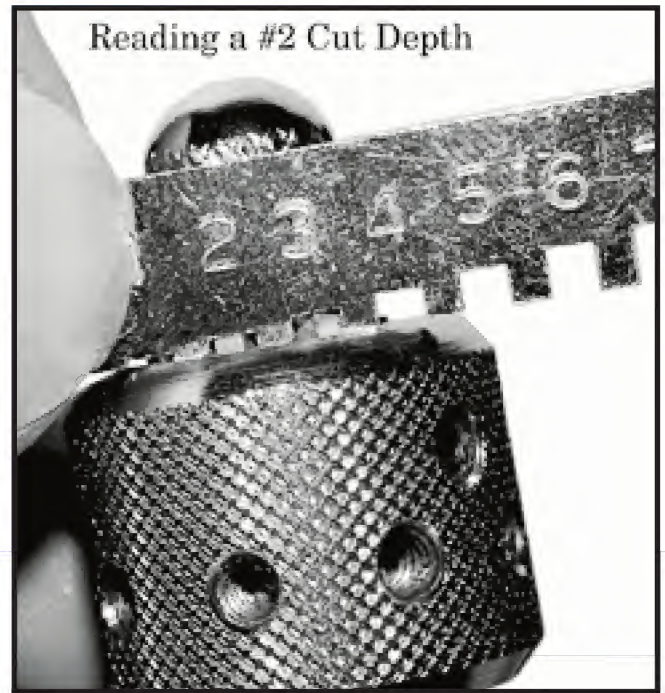


3

The pick elements rise up from the top.



A #3 cut depth. **4**

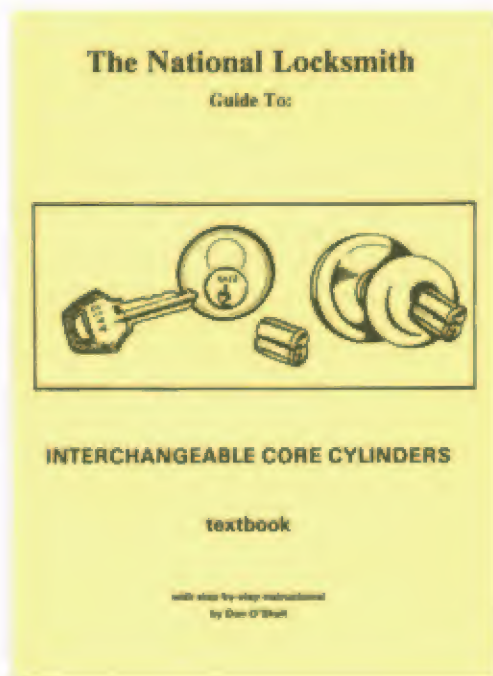


5 Measuring a #2 cut depth.

correct orientation of the pins so that you will be able to insert the pick correctly. Orient the pick tip over the nose of the cylinder to allow the grooves in the tip to pass over the

combining pins and push it into the keyway. The pick tip will bottom against the rotor and allow free movement of all of the combining pins. With the pick inserted fully,

tighten the collet locking nut. This will draw the collet into the pick body and lock the pick onto the nose of the rotor. At this point all of the pins will be depressed to the "0" cut position.



Interchangeable Core Cylinders

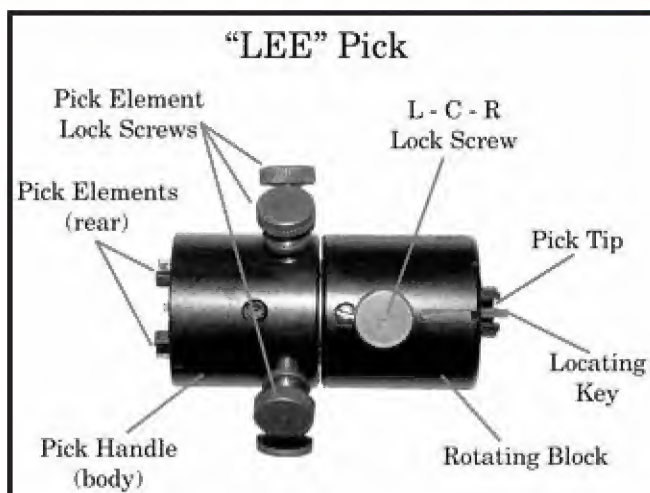
Covers all this...

- Best/Falcon/Arrow/Eagle/(A2)
- Best A3
- Best A4
- Corbin X Removable Core
- Corbin Z Removable Core
- Russwin Removable Core
- Emhart System 70 Removable Core
- Sargent Removable Core
- Schlage, Yale, Lockwood
- Medeco Removable Core

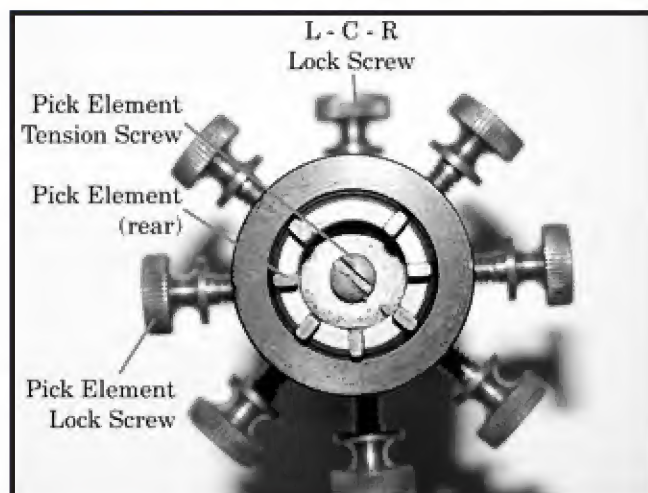
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#ICB - 1



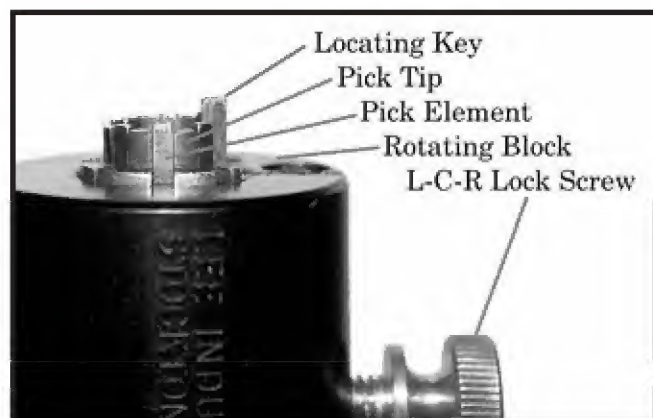
The LEE pick. **6**



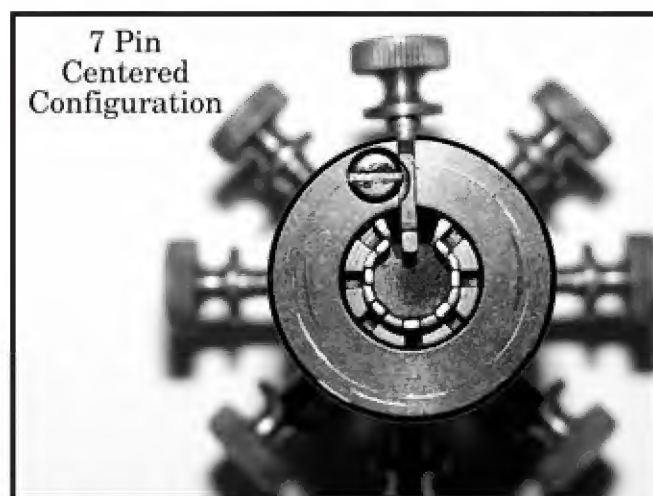
7 Pick element locking screws.

For this pick to operate properly there must be axial play in the cylinder. This is the clearance between the rotor and the barrel of the lock. Pull out on the pick gently, which will separate the rotor from the

barrel by a few thousandths. If the cylinder is a cam lock, it may be necessary to push in on the door to give the rotor some forward motion or play. If the cam is pulling to the rear, it will fight the separation or opening of the shear line and will make picking more difficult.



The Lee pick tip. **8**



9 An end view of the pick tip.

You must have axial play in the cylinder to use this pick effectively. Rim, mortise cylinders, padlocks, T-handle spring bolt plugs and non-cam type cylinders will respond best to this pick method. Cam locks that have a pull on the rotor shaft and cylinders that thread over a threaded draw bolt do not respond well to this pick method.

Check for fore and aft play in the cylinder by gently pushing in and pulling out of the cylinder nose of the pick. This is the width of the clearance between the rotor and the barrel. If the cylinder has this play the tension of the driver springs will push the pick (and rotor) forward to open the shear line. Put light to

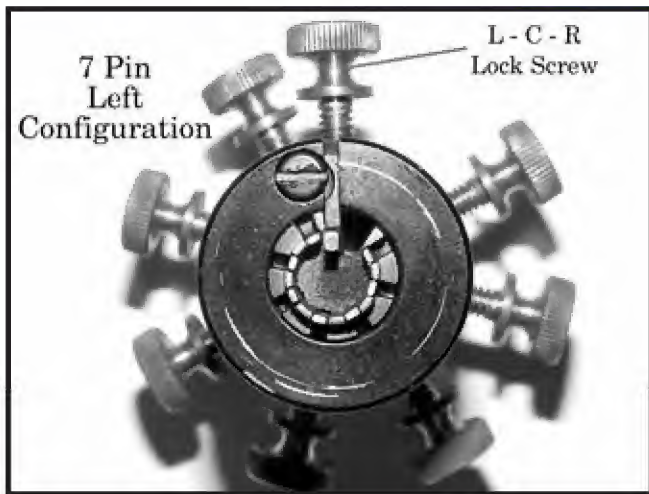
moderate turning torque on the pick and push it forward to force the pick elements back. Release the turning torque and allow the pick to rise out of the keyway, opening the shear line again. Place turning torque on the pick and push it forward. Repeat this impressing motion until the cylinder turns.

Turn the cylinder away from the key pull position, but do not open the lock. With this or any pick that relies on pick tension to retain the position of the pick elements, it is extremely important that the lock not be rotated farther than 15 or 20 degrees. I have many times picked a cylinder and rotated the lock to the next position to find myself relocked. Spring pressure will force one or more of the pick elements to a deeper position and now you have to pick the cylinder a second time. When the cylinder picks, accurize the pick and remove it, leaving the cylinder in the picked condition.

Push the pick into the keyway to bottom against the rotor and depress each of the pick elements. This will accurize the pick with the out-of-position combining pins and insure a good reading to decode the cut depths.

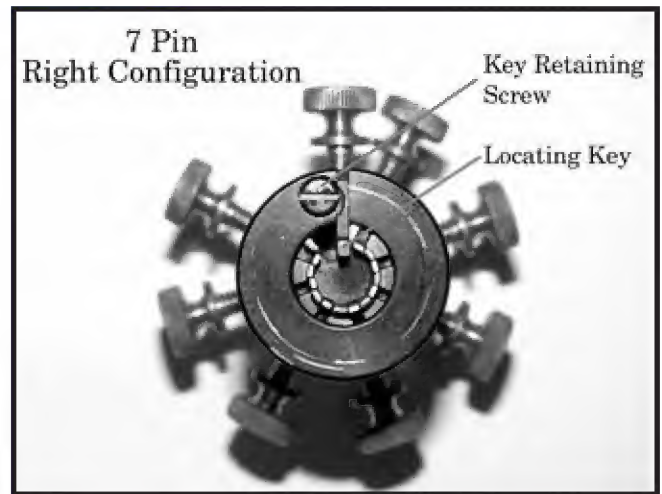
Leave the cylinder in the picked condition and remove the pick by pulling straight out. The pick elements will be left in the proper position to open the cylinder.

Though I have never used them, there are setscrews which can be used to lock each of the pick elements in position after the cylinder has been picked. If the pick elements are locked, the pick can be used as a key



I loosened the L-C-R lock screw and turned the rotating block. **10**

to open this and any other cylinders that use the same combination. There is no fear of loosing the combination.



11 The pick configured to accommodate offset right cylinders.

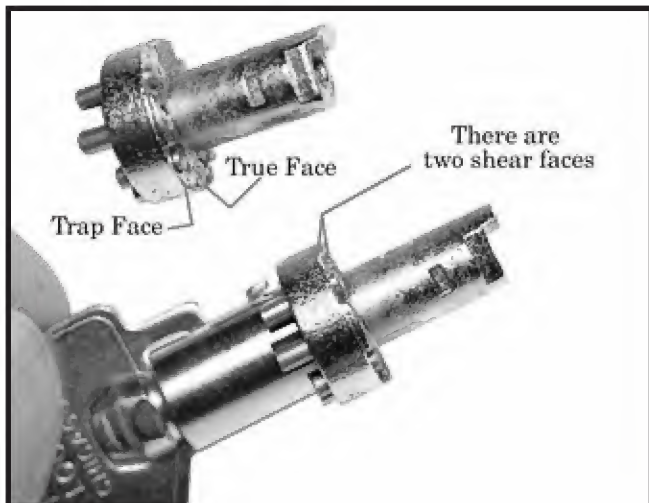
In *photograph 4*, I am measuring a #3 cut depth at the top of the pick element using the provided decoding key. Hold the key flat against the top of the pick handle and find the notch which best fits over the protruding pick element. *Photograph 5*, illustrates measuring a #2 cut depth. Decode and record the cuts to make the key.

- The "LEE" Tubular Pick -

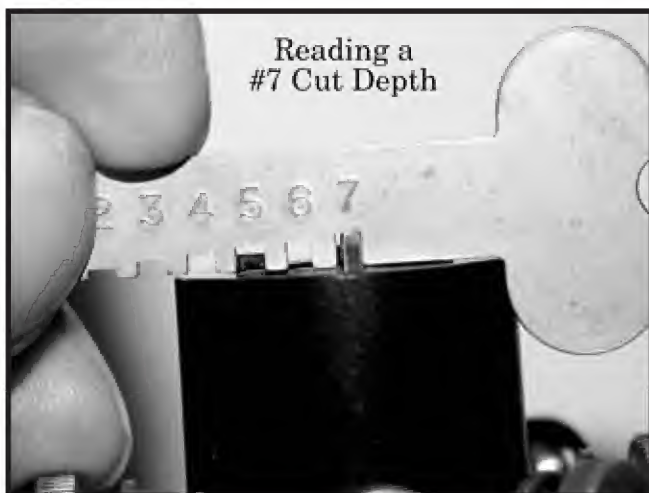
The LEE pick, shown in *photograph 6*, brings some new innovations to the table. This pick is designed to work with standard 137 tubular, 7 pin cylinders of left, right and centered configurations. The Lee pick uses a combination of impression and individual pin manipulation to pick the tubular cylinder. At the top of the pick you can see the top of each of the pick elements. The pick elements pass completely through the body of the pick. Large thumbscrews over each of the pick elements can be used to conveniently lock each in position. The forward half of the pick can be rotated to orient the locating key for left, right, or center configurations. A large thumbscrew engages detent holes in the pick shaft to secure the rotating block in the desired position. The hardened locating key is removable and replaceable.

Looking at the top of the pick body in *photograph 7*, we can see that there is a pick element locking screw over each of the seven pick elements. The pick elements rise up from the top of the pick body as they are forced back by the combining pins during the picking process. On the top of the pick body is a screw and metal washer over a resilient rubber washer. As the screw is tightened, the rubber washer is forced against the inside of the pick elements, increasing the pick tension. This tension preloads the pick elements for the same effect as we have seen in all of the previous impression type picks. The tension prevents the pick elements from being forced back by the action of the cylinder springs.

Photograph 8, details the Lee pick tip. This tip is different than those we have seen in that it does not bottom against the rotor of the cylinder. The pick tip is cut back to bypass any dead pins (ward pins) in the keyway. The Pick element in the foreground is at a #6 depth. Note that the locating key is extended past the pick tip. When the tip is inserted fully into the keyway, the flared base of the pick tip will contact the face of the cylinder.



The rotor from a Fort cylinder. **12**



13 The decoding of a #7 cut depth.

An end view of the pick tip in *photograph 9*, shows the pick tip to be separated from the locating key. Note that the locating key is retained in the rotating block by a slotted screw. This allows the part to be easily replaced if the tip is damaged. Note that the configuration shown is seven pin centered. In *photograph 10*, I have loosened the L-C-R lock screw and turned the rotating block to the left. The lock screw will find a hole in the pick shaft at this position as it is tightened to position the locating key for offset left configuration. Note the position of the locating key with reference to the pick tip and pick elements. *Photograph 11*, shows the pick configured to accommodate offset right cylinders. This is a very good design, which allows the pick to be quickly and easily re-configured to operate any of the three standard seven pin configurations.

- Using the "LEE" Tubular Pick -

Inspect the keyway to determine the correct pin configuration. Set the rotating block of the Lee pick to the correct configuration. Loosen all of the pick element locking screws to

free the pick elements and press the top of all pick elements flush with the top of the pick. The pick is now set to a "0" depth in all positions.

Observe the location of the locating key in the cylinder and on the pick and carefully insert the pick tip into the keyway. None of the pick elements should rise from the top of the pick body. If the tension is too light, tighten the tension screw, reset the pick elements to the "0" position and insert the pick again.

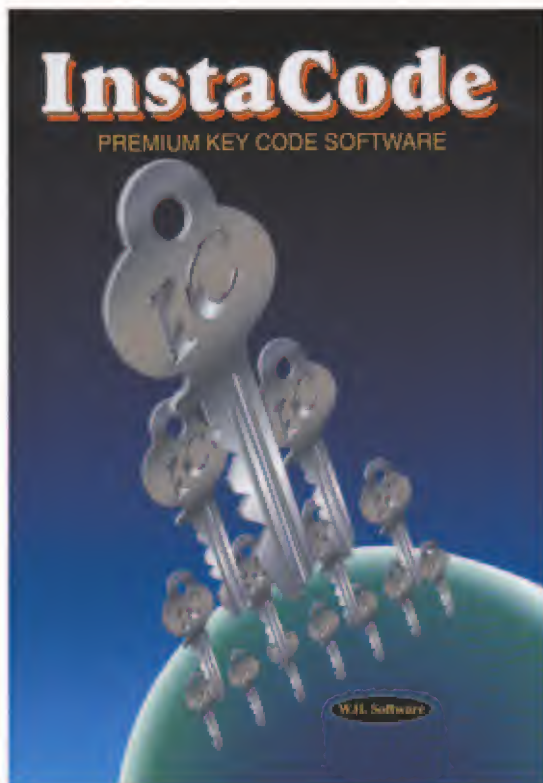
The first portion of the picking process uses the same impression technique that we have seen used with all picks to this point.

Relax turning torque and raise the pick by about the thickness of a dime. Apply light to moderate turning torque and push the pick straight into the keyway. Relax the turning torque and again lift the pick slightly from the keyway. Apply turning torque and push the pick into the keyway. The pick elements should rise from the top of the pick body as the various pick elements impression the combining pins to find the shear line. Repeat the impression technique until the cylinder turns.

In some cylinders, you may find that the lock begins to pick away from the key pull position, but "traps" about 3 or 4 degrees away from the full locked position. You have just discovered the rotor traps described in an earlier article as being common in Fort cylinders.

Photograph 12, shows the rotor from a Fort cylinder. Notice that there are two shear lines in the trapped positions. The shear lines are separated by about "two depths," which insures that the driver will not allow the rotor to turn if the position is picked to the top shear line or trap face. The driver (top pin) bumps on the wall of the recess preventing the rotor from being turned farther.

As this lock is picked, the trap shear line will be found only if the lock is picked from the top down. When the impression technique is used, the lock is being picked from the bottom up, which usually prevents the traps from being encountered. You will however find these traps from time to time and clearing them is easy if you know what they are and where they are found. Traps will most commonly be found in positions 1, 3, 5 and 7.



#IC - 2001

InstaCode

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With this knowledge, you know that the pick is two cut depths too deep in the trap positions. To clear the trap, depress the top of the pick elements in positions 1, 3, 5 and 7, while maintaining the turning tension. If the pick element is "hard," as if the combining pin is hanging at the shear line, leave it. If the pick element can be depressed and clicks as it is depressed, you will have pushed the combining pin to the true face or operating shear line. Push in the element to the click and lock it in position. Test each of the indicated trap positions. When all have been cleared, the cylinder rotor will turn.

Rotate the cylinder away from the key pull position and accurize the pick to the combining pins. Lock the pick setting, using the pick element locking screws. The pick is now locked in position and can be used as a key. There is no fear of loosing the pick setting.

Photograph 13, shows the decoding of a #7 cut depth from the top of the pick. The Read key is held flat against the top of the pick and used to measure the height of each pick element. The pick element should just touch the inside of the decoding key.

You should easily be able to read half cuts with this arrangement. Record the cut depths and make the key. Be sure to read and cut the key in the same direction. If you read the depths clockwise (Chicago convention) be sure to make the cuts in the key in the same direction. If you read the cuts counterclockwise (Fort convention) cut the key counterclockwise. It's easy to get turned around and end up with a wasted key bank.

- The Peterson Pro-1 Tubular Pick -

The last pick we will study is the Peterson Pro-1 tubular pick. The Peterson Pro-1 departs from all previous technology on tubular lock manipulation. The Peterson pick is unique in almost all respects. It borrows very little from any previous pick technology.

- All other picks use pick elements that are friction loaded to allow the pick to "impression" the combining pins.
- All other picks pick from the "0" depth position.
- Most other picks do not have the convenience of locking the individual

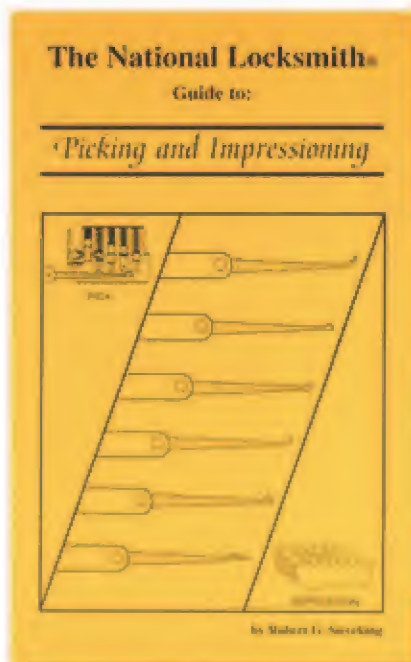
pick elements after the lock is defeated.

- Most other picks are specific to a particular key configuration, key diameter, or number of pick elements (seven or eight).

- Most other picks are not designed to be repaired. If the tip is damaged, the entire pick must be replaced.

The Peterson Pro-1 tubular pick is shown in *photograph 14*. The body of the pick is made from structural fiber filled resin. The machined aluminum cap is secured to the body by two socket head cap screws and accommodates eight pick control towers, one for each of the pick elements. You will note that one of the pick control towers is blackened. This tower accommodates the number eight pick element. Since we are configured to pick a seven pin cylinder in this case, there is no pick element installed in the number eight tower.

The pick element control button at the top of the tower controls its pick element and is free to move up and down. There is no friction loading in the pick element. The pick element thimble is threaded onto a hollow



Picking & Impressioning

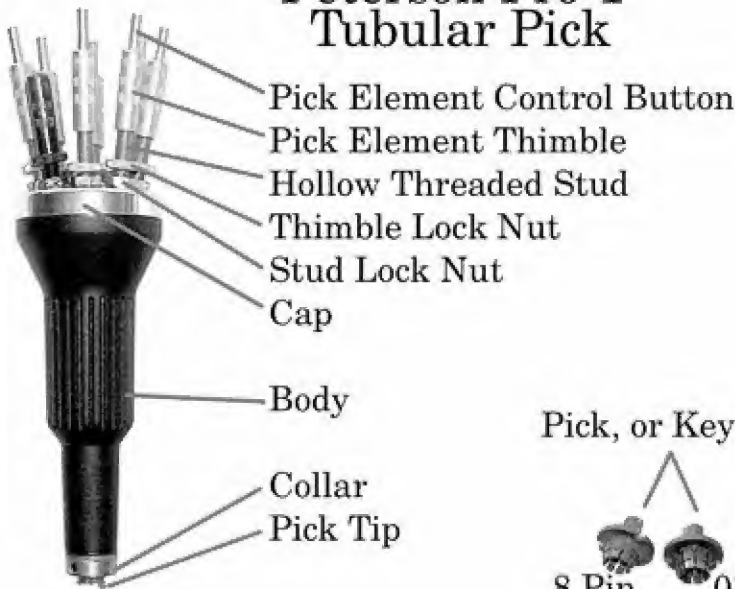
Here is the most complete book ever published on picking and impressioning locks! You will have everything you need to know about how to open almost every kind of lock that can be picked.

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#PI

Peterson Pro-1 Tubular Pick

14



Pick, or Key Tips



threaded stud. In use, the thimble restricts or limits rearward travel of the pick element. A knurled thimble lock nut allows the individual thimbles to be locked in place when necessary. The hollow threaded studs are locked in place in the cap by lock nuts on the studs. The tool is calibrated at the

factory and the studs are individually locked in place and sealed. No adjustment should ever be made to the length of the threaded studs.

The removable cast bronze pick tip at the bottom of the pick is attached by a single socket head cap screw.



15 The pick tip is cut back to bypass dead pins.

The brass collar around the tip is fixed in position by a socket head setscrew. The pick is configured for seven pin centered configuration, but comes with two standard tips to accommodate the eight pin and .0360 small diameter cylinders. The eight pin tip is used to accommodate the left and right offset configurations. The pick, with no add-on accessories will manipulate 7 pin 137 (.380 diameter) left, right, and center configurations and the smaller .360 diameter 7 pin cylinders. A fourth tip is available to accommodate the deep narrow 7 pin cylinders, such as those found in the American Lock Company series 7300 padlock. If a tip is ever damaged or lost, it can be replaced without the need of replacing the whole tool.



Guide to Motorcycles

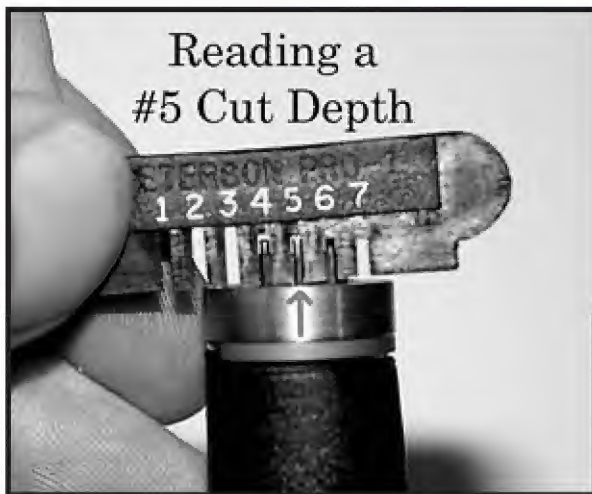
For years locksmiths have begged for a comprehensive service manual on motorcycles and its finally here!

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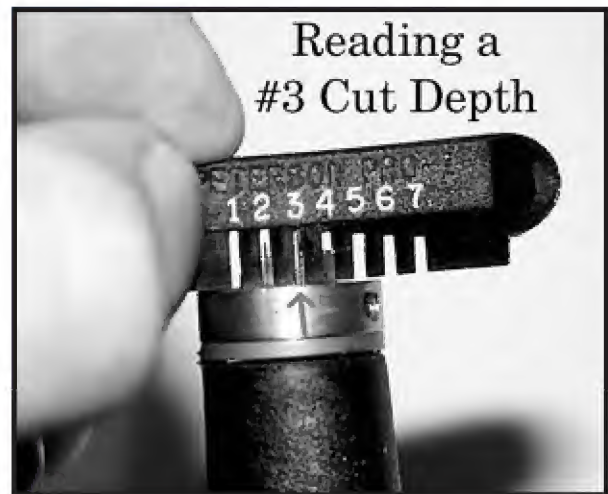
#MOT - 2



October 2000 • 79



Measuring a pick element using the plastic decoder comb. **16**



17 Read and record the cut depths to make the key.

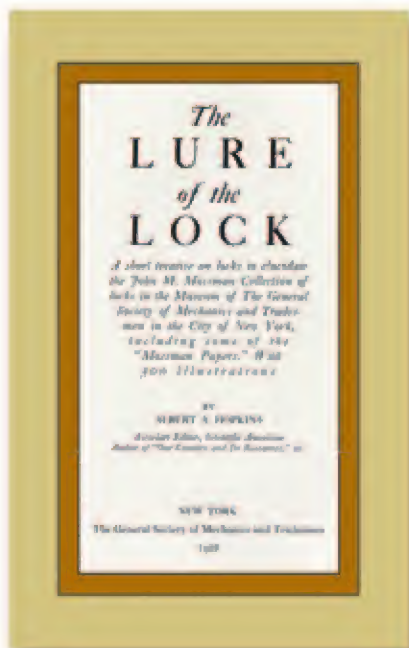
The extended small diameter tip is designed to fit into the recess found on some T-handle, padlock and bicycle locks, which prevents most others from entering the keyway.

A closer look at the pick tip in *photograph 15*, reveals some more interesting points. The pick tip is cut back to bypass dead pins and ward pins in the keyway. The Peterson pick does not bottom against the rotor in the cylinder. When the pick is in the

keyway, the brass collar touches the face of the cylinder and becomes the land from which the pick elements are calibrated. The locating key is cast into the tip and draws additional strength from the surrounding casting. The pick elements are .035" spring wire. The length of the pick element is calibrated at the factory, by grinding the tip. This establishes a very accurate length and leaves the tip of the pick element perfectly flat.

- Using the Peterson Pro-1 Tubular Pick -

Inspect the cylinder to be manipulated and insure that the pick is properly configured. Push all of the pick elements in to bring the tips of the elements even with the end of the pick tip, as you see in *photograph 15*. It may be necessary to back out the pick element thimbles to allow the pick



The Lure of the Lock

This hardcover book, compiled in 1928, features dozens and dozens of beautiful photographs on ancient through modern locks.

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#LURE

elements to be retracted fully. Insure that the thimble lock nuts are away from the bottoms of the thimbles. Find the setscrew in the brass collar, which fixes the collar to the pick tip. It should be exactly over the locating key in the pick tip. Use this to identify the location of the locating key.

Carefully insert the pick tip into the keyway, observing the location of the locating key. The pick must be held vertical to the face of the lock cylinder. The brass collar will be in contact with the face of the cylinder. Apply a light torque to the pick. The manufacturer refers to this as a bias. It sounds better than torque, as it infers a light touch. As with picking paracentric cylinders, the turning tension, torque, or bias is critical to success. While applying bias to the cylinder, tap each of the pick element control buttons individually with the tip of your finger. You are feeling each to find the primary locking pin. One or more of the pins will resist being pushed down. The rest will be bouncy, because of the action of the cylinder springs.

While holding the pick vertical to the lock cylinder and biasing the pick to maintain the pressure on the primary locking pin, slowly turn the pick element thimble down. This will cause the pick element to extend, pushing the combining pin downward. When the pin reaches the shearline, you will hear/feel a click. The pin is picked to a shear line. It may be a false or true shear line, you can not tell and it makes no difference at this point. The pin is picked. Relax the turning tension and then re-bias the pick in the opening direction. Test the control buttons again to find the next primary locking pin or pins.

Perform the screw down operation to find the shear line for each position and release the turning tension. Continue testing to find the binding pins. As each pin is picked, another will bind. Continue this operation until the cylinder turns.

If you have picked a pin position to a false shear line, it will become a primary locking pin (it will bind) a second time. Pick that position a second time to clear the trap. Refer to the above explanation, concerning the location and nature of traps. When all of the positions have been picked, the cylinder will rotate.

Rotate the cylinder away from the key pull position to place the rotor between-cuts, as we have done with all

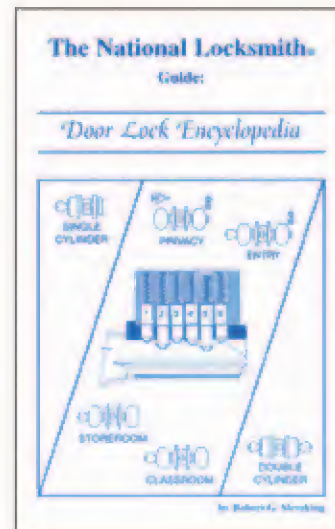
of the other picks. Don't be tempted to open the lock. At this point we want to accurize the pick elements. Hold the pick squarely into the keyway and turn the thimbles, one at a time, a half turn out, then turn them in lightly until resistance is felt. This will be the tight depth. Back the thimble out one quarter turn to allow a little key clearance, then spin up the lock nut to lock the thimble in place. Repeat this step for each of the seven pick elements. It is important to introduce the key clearance each time a pick element is accurized to the cylinder. This will make the completed key work smoothly.

When all pick elements have been accurized and locked down, open the lock. There is no need to worry about loosing the pick setting. Rotate the cylinder being careful to keep the pick squarely in the keyway and vertical to the cylinder. If you find a catch or a bind, identify the pick position and re-adjust the offending pick element. The Peterson pick uses a vernier screw action to accurately position and maintain a pick setting. Re-adjustment of a single pin position is accomplished without removing the pick from the keyway. After accurizing the pick and testing for smooth operation, all that remains is to decode the pick positions and make the key.

Photograph 16, shows me measuring a pick element using the plastic decoder comb. Hold the base of the decoder against the brass collar and slide it along until you find the notch that fits over the pick element with just a sliver of light above the end of the element. In the photograph we have identified this as a #5 cut depth. *Photograph 17*, shows me measuring a #3 cut depth. Read and record the cut depths to make the key.

The techniques used on the majority of the picks are simple enough to understand, but you will need to practice to become proficient. I have found all of the picks presented here to be effective in manipulating the tubular lock cylinder. Some manufacturers cylinders will present special challenges to picking. Learn which cylinders require what special techniques to defeat. **TNL**

Door Lock Encyclopedia



The ability to remove a lock from a door, disassemble the mechanism, and remove the lock cylinder for service is not always a simple straight-forward task.

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#DLE

October 2000 • 81

The WIGHTER Side

"Memorable Day"



by
**Sara
Probasco**

Just after Memorial Day weekend, I received a telephone call from a locksmith who had tracked me down via the Internet and National Publishing, to share a true story with me. His name is Michael J. Foty, CPL, of Foty Lock & Safe in Fairmont, Minnesota. We had initially met at the ALOA convention a couple years back. I had encouraged him to let me know when he came across something interesting that I might use in one of my articles. This was it.

"Last night, just before dark," his story began, "I got yet another AAA call in what was a very busy three day weekend. This one was to go to a little blink-of-an-eye town 20 miles North of here."

Actually, as Mike was soon to discover, the customer was visiting friends out in the middle of nowhere on a farm with no address. At first, when AAA called and Mike took down the call number, type of vehicle, and such, he didn't pay much attention to the customer's name, due to his irritation over the very sketchy directions and lack of definite address. Instead, he concentrated on getting the customer's phone number and told the dispatcher that he would call and get directions, himself.

As I understand it, Mike had only recently relocated to Fairmont, Minnesota, and so was not overly familiar with outlying areas. In the county where he lives, every house - no matter how remote - has a green sign out at the street or road which displays their "911" number, and every thoroughfare is marked with a street, avenue, or road name. This is very handy when trying to locate an unfamiliar address. However, in the county north of him they have obviously been a bit slower putting up identifying markers. It seems only the locals really know where everybody lives. That may be a bit fuzzy in the directions they give.

At any rate, Mike called the customer on the telephone. She tried

to give directions, but finally admitted she was only visiting in the area and could not give accurate directions to the site without some help. Summoning the homeowner, she began relaying information supplied by her hostess, who remained off-telephone. What Mike got was the old, familiar rhetoric many of us have run into before: "Go two miles north of such-and-such, and turn left at so-and-so's house, and then..."

"What's the name of that place again?" the customer asked her hostess while Mike waited on the other end of the line. "Anyhow," she said back to Mike, "she says you need to look for a cemetery on your right, then turn into the gravel road there. On the right." She spoke to the lady who was with her: "You're sure that cemetery's on the right? I would have sworn it was on the left."

At this point, Mike politely verified that, although the customer was not familiar with the area, the other lady was. He then asked if she could please put the other lady on the phone so he could get information directly from her and eliminate the middle-woman.

The second lady took the phone and started to give directions, "After you turn right at the second cemetery, go five miles and turn left. Then go two miles north, on past the old Johnson place..." Mike suppressed a laugh. As if he knew Old Johnson! The guy had probably moved out of that house when Mike was a toddler, many long years before he'd moved to this area. "...Then, you go another quarter mile or so, and it's the first house on your left."

Some guy in the background suddenly joined in the conversation and began to correct her, relaying his own version of directions through her to Mike, and everything just got worse.

In an attempt to straighten out the confusion, Mike felt compelled to question the accuracy of some of the distances he had been given. The guy

stated firmly that out where they live all the dirt roads were spaced exactly one mile apart. Both women launched into an argument with him over that point, and Mike realized it was futile to continue the conversation further.

"Look," he said to whomever was on the phone by that time, "I'm going to start that way, and I'll call for more information if I get lost."

"Oh, you won't have any problems. You really can't miss it," she assured him. "There's a big graduation party going on here. Just look for all the cars parked in the yard."

Taking all the appropriate turns as best he could, Mike finally managed to get to the right place. At least it was a place out in the country where people were obviously having a big celebration. Cars were parked all over the place, lining the road, the driveway, and spilling over onto the yard. Sure enough, you couldn't miss it.

As Mike told it, "I pulled into the driveway and was met by two very attractive ladies, as nearly as I could tell in the dark. One was blond and one brunet. They were very grateful for my coming out to this remote area to help them out. The subject vehicle was at the end of a very long line of vehicles that were parked down both sides of the narrow gravel driveway. The vehicle gave me a little bit of a rough time. While I was working on it, various people kept coming around and offering to go get me something to eat and drink. I declined several times. The vehicle finally gave in without too much fuss."

Someone called the owner of the vehicle and she came out to sign the ticket. She was the beautiful brunet who had originally greeted him.

"She was extremely excited and grateful to have her vehicle open," Mike said. "She came over to me and said, 'I don't know you, but I really appreciate what you have done for me,' and then she gave me a kiss."

Once I got my breath, I told her that I didn't get kissed very often by grateful customers, and I thanked her for the opportunity to help her. As I was completing the paperwork and about to get her signature, she gave me five dollars. I told her that for sure I had never been kissed and tipped all on the same call. I thanked her amidst their repeated prodding to come up to the house and let them feed me and get me something to drink, but I declined the invitation.

"For the first time, I really noticed the customer's name. I must have been really tired the night before, because I had not recognized her name. It never registered!"

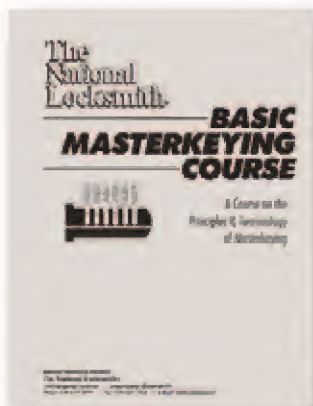
Mike waved a cheerful goodbye, but in backing out the long driveway, he nearly ran off into a ditch.

"The next day, I was cleaning out my truck and I grabbed the note with the AAA call information on it," Mike said. "For the first time, I really noticed the customer's name. I must have been really tired the night before, because I had not recognized her name. It never registered! This very shapely, beautiful brunet who had kissed me was named Elizabeth Taylor!"

Now, I don't know if Mike was too tired, or too lost, or what to notice the lady's name at the time, or even to recognize her for whom she might have been. I guarantee he had a memorable encounter that night that made Memorial Day a holiday he'll not soon forget!

TNL

Basic Masterkeying Course



The Basic Masterkeying course is designed for the locksmith who wishes to become proficient in Basic Masterkeying.

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#MK - 1

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This is THE source for automotive technology, safe opening techniques, electronic security and much, much more.

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#SUB - 1,2,3,4,5,6

TECHNITTIPS

YEAR-END PRIZES



Grand Prize

Silca Bravo Duplicator



1st Prize

HPC's 1200PCH
Punch Machine



2nd Prize

Mas Hamilton's
PowerLever 2000



3rd Prize

Curtis 2200 Duplicator



4th Prize

SDC Magnetic Lock,
Keypad and Exit Switch



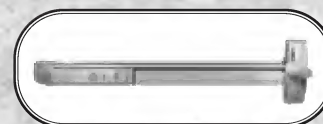
5th Prize

Securitron 12-Volt Unlatch Plug in
Trans & Touchpad Retail Value \$650



6th Prize

LaGard "SmartGard"



7th Prize

Detex Advantex



8th Prize

Arrow 400 Series Alarmed
Exit Device & S-75 Mounting
Plate Kit for Narrow Stile
Aluminum Doors



9th Prize

\$500 in BWD Products



10th Prize

\$500 in ASP Auto Locks



11th Prize

\$500 in Strattec Auto Products



12th Prize

Tech-Train "Jiffy Jack"



13th Prize

Sargent & Greenleaf 6120
Electronic Safe Lock



14th Prize

High Tech Tools
2000 Pro Set



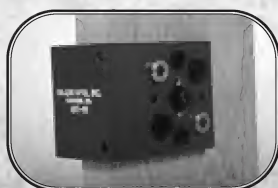
15th Prize

Slide Lock's Master "Z" Tool Set



16th Prize

ESP Products Sampler



17th Prize

Major Manufacturing's
HIT-111 Drill Guide



18th Prize

Abus Padlock's Marine
Padlock Display (\$120 Retail)



19th Prize

Mark Bates Associates
Falle Pick Set



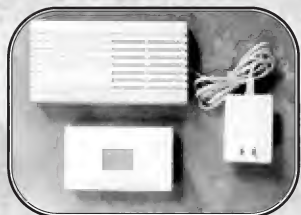
20th Prize

Baxter JV-1 & JV-5
Code Books



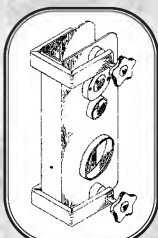
21st Prize

Sieveking Products
Squeeze Play



22nd Prize

Rodann's TX 500
RX 5990 Wireless Door
Annunciator System



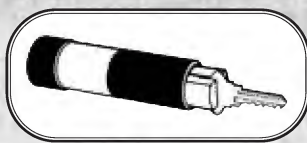
23rd Prize

A-1 Security Manufacturing
Installation Jig



24th Prize

Keedex Sampler



25th Prize

Framon
Impressioning
Handle



26th Prize

Gator Tool Multi-Purpose
Facecap Tool

These Prizes Awarded Each Month!

- BWD Automotive Ford or GM KwiKit
- Wedgeco™ Key Extractor Kit
- Strattec Racing Jacket
- HPC Air Wedge™
- Sargent And Greenleaf 4400 Series Safe Deposit Box Lock
- A-1 Security Products
- ILCO Key Blanks (100 Blanks)
- Keedex "SPIN OUT" Screwdriver
- Tech Train Training Video
- Sieveking Products Gm E-Z Wheel Puller
- Major Manufacturing Products
- Slide Lock's "Z" Tool Opening Set
- The Sieveking Auto Key Guide
- Jet Key Blanks (100 Blanks)
- High Tech Tools
- LaGard Combo Guard

Send in your tips, and win!

How To Enter

Send a tip on how to do any aspect of locksmithing. Certainly, you have a favorite way of doing something that you would like to share with other locksmiths. Write your tip down and send it to:

Jake Jakubowski, Technitips Editor,
The National Locksmith
1533 Burgundy Parkway
Streamwood, IL 60107-1861

Or send your tips via
E-mail to: Natlock@aol.com

Rules & Regulations

Each tip submitted must include your full name, street address (no P.O. Box numbers), city, state, zip code, phone number, fax number or e-mail address.

Every Tip Published Wins

If your tip is published you will win one of the monthly prizes listed. At the end of the year, we choose winners from all the monthly tips published, that will be awarded one of the fabulous year end prizes. All you have to do to win is enter.

Prizes are arranged according to suggested retail price value.

Tips Start
on Next Page



**BWD KWIKIT WINNER:
Alternative Power
Source**

I have an old Ilco 025 duplicator on my service van. It's been a great little machine, but it is an AC machine and I have to run a drop cord from wherever I am working to a power source to duplicate keys.

Recently, I was way, way out in the country and had to repin the locks on an old farm house. Using a previously cut key allowed me to do the repinning, but when I had to make copies of the original key, I found there was no power to the house. Not having a generator or inverter, I was stumped.

After a few minutes of contemplation, I realized I had an alternative power source in my DeWalt cordless drill! I went to my toolbox, selected a 1/2" socket and a two inch extension and place the socket on the extension and chucked them both into my DeWalt 18 Volt cordless drill.

Next, I place the original key in the copy side of the 025, put a blank in the duplicator jaw, placed the 1/2" socket over the end bolt on the spindle of the 025, put the drill's switch in "reverse" and pulled the trigger!

It took a little bit of getting used to holding the drill against the bolt with one hand and running the machine's carriage with one hand, but it didn't take me long to whip out the 1/2-dozen duplicates that the customer wanted.

Since then, my DeWalt has become my alternative power source for powering my 025 when I am not near an AC power source to run a drop cord.

*Ellis Gibbs
North Carolina*



**WEDGECO™ KEY
EXTRACTOR KIT WINNER:
Ford Transponder
Problem Fix**

While making Transponder keys for a 99 Ford F-150 Pick-Up that was repossessed, I had difficulty getting the vehicle to start. After 3-1/2 hours a friend from the Ford garage came by and discovered that it was not the NGS and or keys that was the problem.

When the reposessor got the truck safely away from the pick-up point, they had disconnected the shift linkage from the transmission linkage. When the keys will not turn the starter, check the linkage. Save

Jake's Jabber...

Occasionally, I get a letter from a reader criticizing the value of a particular tip that was published in this column. Sometimes the critique will state that the information published was so basic, that "anyone" who is a locksmith would "know that!" Sometimes, the writer will wonder why someone would "repair" a given lock, or part, rather than simply replace it with a new one. And, from time-to-time, a writer will question why I don't tell someone, who spent an hour-and-a-half repairing a \$12.00 ignition, that he actually lost money on the job!

Well, from time-to-time, I do tell tipsters that there are tools and replacement parts available that are more cost-effective than the solution that they offer. However, when you're in the field and you don't have a particular part in your inventory, you have one of two options: either find a replacement close by, or repair what you have. I have been in situations where I needed an ignition that only cost me \$6.00 and I didn't have one. To get the customer up and running, I spent whatever time necessary repairing what was there, or I went back to the shop and got the part. Either way it was not necessarily cost-effective, but necessary.

As far as the "basics" are concerned, how basic a procedure is depends upon a locksmith's level of expertise. As a novice, I well remember the first Kwikset knob I had to rekey. I drove across town (Scout's Honor) to a friend's shop to find out how to get the cylinder out of the knob. That same friend had earlier taught me how to rekey a mortise cylinder, he neglected to show me how to use a follower.

The short answer is this: Basics are only basic to the locksmith who has progressed past the point in his or her learning experience, where a given procedure has become basic to them. Every month there are more locksmiths coming into the trade who do not have a grasp of what the more experienced locksmith considers basics.

Each of us has a greater or lesser degree of knowledge and expertise in our profession than the locksmith standing next to us. If we know more - even on a basic level - then I think we have an obligation to share with those who are not quite as experienced.

One of the reasons why *The National Locksmith's* Technitip column is so popular is the willingness of locksmiths to share their ideas, tricks and tips, to make another locksmith's day a little easier. This is the place where even new locksmiths can - and have - contributed ideas.

Sometimes I'll comment on a given tip, or make a suggestion that I think will improve the idea, but I won't tell anyone contributing ideas that they're full of horse feathers. At the very least, they are willing to help, and all of us at *The National Locksmith* appreciate their efforts of participation.

Y'all heah me, now?



*by Jake
Jakubowski*

yourself time and trouble. *Wayne Gow
North Carolina*



**STRATTEC RACING
JACKET WINNER:
Keeping Track of
Tryout Keys**

I got tired of my tryout keys getting tangled up in the chains they came on. So I got some WeedEater™ string and put each set of tryout keys on a different colored cord.

The keys slide easier when I'm using them and the different colors

help me identify the set I need at a glance. *Mark Schwebke
Texas*



**HPC AIR WEDGE™
WINNER:
Schlage I/C Core
Removal**

Ever get those calls to rekey a Schlage IC cylinder in a Unican 1000, but no one remembers what happened to the control key?

Save yourself time and pick the cylinder to the operating shearline and turn the plug 180° clockwise. Now using a hook pick, lift the #7 pin to the

top and with a tension wrench turn the plug clockwise to release the IC core. Now you can repin the cylinder and make a new control key.

I keep a record of control key cuts for the next time.
Steven Clarke
Canada

SARGENT & GREENLEAF 4400



**SERIES SAFE DEPOSIT
 BOX LOCK WINNER:
 Homemade Clip for
 HPC EPG-1**

I lost the "U" shaped channel clip on my HPC EPG-1 Electro-Pick, which secures the pick to the unit's rocker arm. Needing the pick right away and not having

time to order the part, I manufactured one out of a 1/8" toggle bolt.

First, I removed the screw from the toggle bolt and with a pair of diagonal cutters, cut the threaded pivot in half and discarded the pivot and spring.

What remains is the two channeled halves that make up the toggle body. Note that the narrow arm fits inside the wider outside piece. I discarded the inside or narrow half of the two arms.

Then I measured 1/2" from the end of the center area and ground off the portion of the arm at the 1/2" mark. (See illustration 1.)

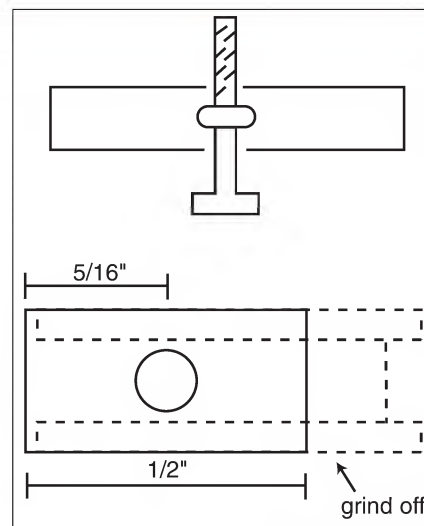
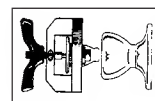


Illustration 1.

Finally, I measured 5/16" from the end and drilled a 9/64" hole, touched up the rough edges and attached it to my Electro-pick.
John Marske
California

**A-1 SECURITY PRODUCTS WINNER:
 Old Sagar Mortise
 Fix**

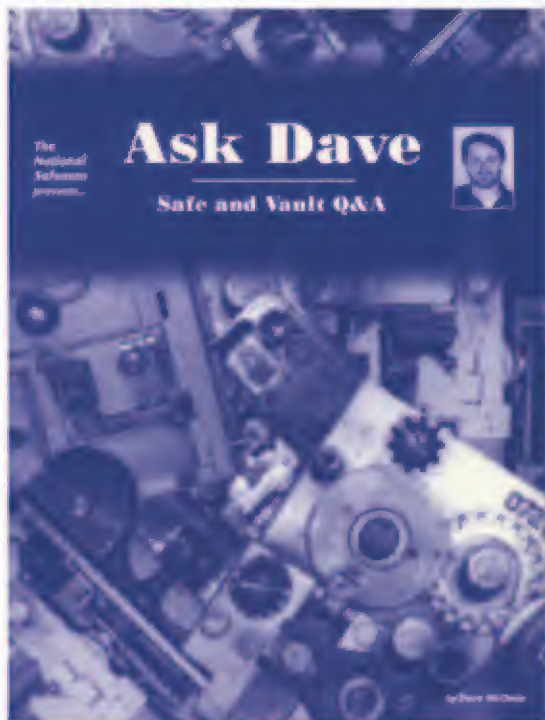


Here's a quick fix for an old Sagar mortise lockset with a missing rear rose and knob. This particular unit had a split spindle used in conjunction with a knob that was attached directly to the rose. The customer wanted to save the old lockset if at all possible, so replacement was not a viable option.

By looking at the impression the old rose left behind, I was able to determine the size of material necessary to fabricate a new rose. I used a brass sheet .025" thick and 3" round and drilled a hole - on center - large enough to permit a standard threaded spindle to pass through. Then I drilled six 1/8" holes of equal distant around the rose I had made.

Next, I cut the new spindle to length and threaded it to a brass knob I had salvaged. After placing the spindle in the knob and securing it with the setscrews, I slid the spindle through the hole in the rose I had fabricated and secured the rose to the knob by slipping a washer over the spindle. Once the washer was in place and snug against the rose, I drilled a 1/8" hole in the spindle so I could insert a cotter pin (a roll pin could also be used). (See illustration 2.) Just make sure you have enough end play between the knob, rose and washer so the know will turn without binding.

Ask Dave



You asked. He answered. This is safe
 and vault Q&A with an attitude.

CLICK HERE TO LEARN MORE



#AD - 1

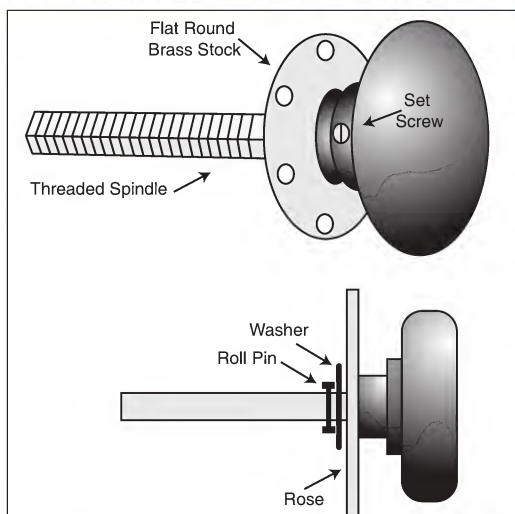


Illustration 2.

The final step was to attach the rose/knob/spindle assembly to the door. I used 1/8", #5 brass Phillips head screws, to attach the rose to the door. It looks good, is functional the customer is pleased with the results.

Prior to calling me to fix the door, the customer was using a pair of pliers to open the door from the inside by grasping the remains of the old split spindle. *Mark Cunningham, CPL Ohio*

ILCO KEY BLANKS (100 BLANKS)
WINNER:
Corbin Tailpiece Substitute



Recently I rekeyed a Circuit City Store and as I was finishing with the last of five Detex exit alarms, I lost the tailpiece to the Corbin Russwin 552 cylinder. You know, the big one.

I seldom run across these cylinders in my area, so I don't have spare parts for them. It was already after 5 p.m. and there was no place I could obtain a new cylinder or a proper tailpiece.

Of course, I didn't want to tell the manager that I had lost the tailpiece and I didn't want to put in a temporary cylinder until I could order one (which would also mean a second trip). Here's how I solved my dilemma:

Using a standard tailpiece, I placed it on a block of steel that I use for an anvil and used a ball peen hammer to stretch (widen and lengthen) the regular tailpiece so that I could substitute it for the missing one. It only took a few hits with the hammer to obtain the dimensions I wanted and then I touched the new tailpiece up with my grinder, attached the new tailpiece to the cylinder, tried the lock and buttoned the unit up.

*Ed Hamm
 Illinois*

Editor's Note: Ed, I understand what you did and as I've said many times before, you have to do what is necessary when you're in the field to get the job done. My primary concern is that by stretching the tailpiece by cold forging it - that is: beating it into shape - you may have weakened the metal (fatigued it) to the point where it could break under normal use conditions. If you did not over stretch the modified tailpiece your customer will probably not have any problems with it. Just to be on the safe side, I think I would scare up and original tail piece or order a new

cylinder... just in case. Thanks for sharing your idea with us.

KEDEX "SPIN OUT" SCREWDRIVER WINNER:

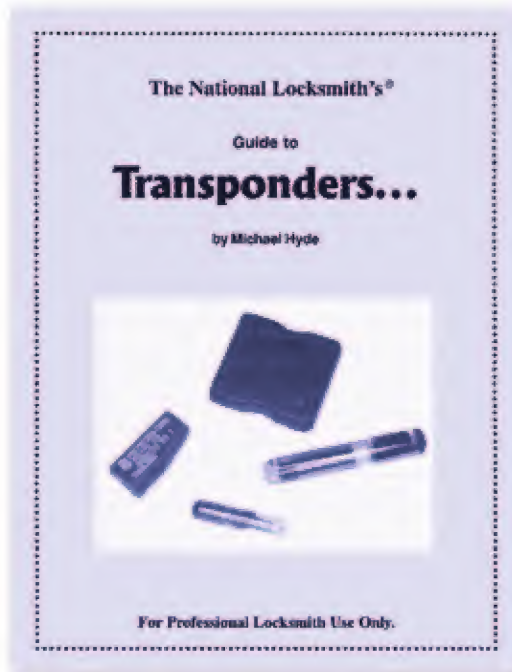
Best/Falcon I/C Modification



I replaced all the lock cylinders in a mall recently with interchangeable cores. This was really a pretty straight forward job until I came to a locking overhead gate that was activated by a mortise cylinder and micro switch.

The cam that activated the micro

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#TS - 2001

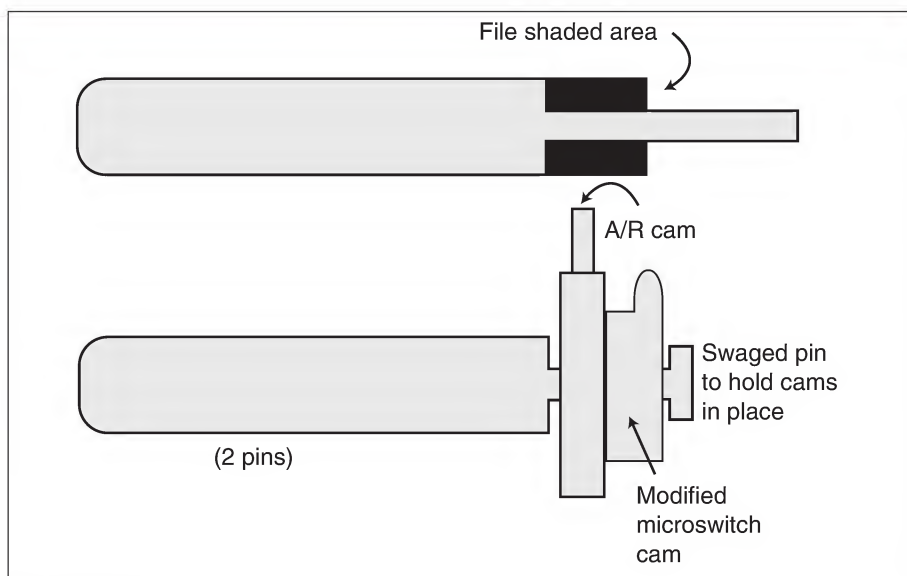


Illustration 3.

switch was modified to fit the back of the existing Yale cam. The Yale cam was in its proper position and the cam that was used to activate the micro switch was placed on top of the Yale cam and held in place with two extra long 6/32 Allen Head screws.

The problem, of course, is that the I/C cams are retained by the pins or actuators that come through the back of the housing and are swaged over

the cam to keep the cam in place. That meant there was no way to attach the cam that operated the micro switches without weakening the assembly.

After a little thought, I drove the two posts out of the Adams Rite cam on the I/C housing using a small punch. I placed each post into my vise and after carefully measuring to allow for the extra length I would need for the micro switch cam space, I filed the

shoulder of the pins back, creating a new cam assembly point. (See *illustration 3.*) The pins now protruded farther out of the back of the housing, giving me an extended post on which to mount both the Adams Rite cam and the micro switch cam.

After placing the Adams Rite cam on the extended posts, I placed the micro switch actuator over the posts and swaged the post ends down over the second cam to hold the assembly together.

Although the posts were now shorter inside the housing, they were sturdy enough that they would not break operating the micro switch.

*Robby Stout
Texas*



TECH-TRAIN
TRAINING VIDEO
WINNER:
**Saving Forum
Threads**

I'm sure some of you have thought of this, but I am presenting this just in case it helps another locksmith out there. Sometimes I want to access back threads or information from *The National Locksmith's* web page



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#DMCD - 2

forums, but I can't remember when I last saw it. I have set my options to view threads for the last 365 days.

As many of you probably know, the threads will not hold that many postings, but they will give you the last hundred or so. I began printing a list of all the threads as far back as I can go.

Then I printed information from threads that I felt might help me later on and I'm keeping it with my active thread list. When I need to access information all I need to do now is read down through the thread list (pages) and match up the thread that contains the information I want to retrieve. This really cuts down on the time to look this information up again.

It's especially helpful when your remember threads about key codes or lock servicing, or just about anything.

*Dave Lueras
Wyoming*



**SIEVEKING
PRODUCTS GM E-Z
WHEEL PULLER
WINNER:
Passing on Vehicle
Codes**

Many vehicles do not have codes on the locks and sometimes it is difficult to get a code from the manufacturer. What I have started doing whenever I generate a key for a customer, is write the code on a sticker and place it on the wall of the glove compartment. I have been called out to several of these vehicles a second time and the code was right where I put it.

Also, I'm sure other locksmiths have found my method of passing on the code helpful when they have encountered one of these vehicles.

*Larry P. Brown
Ohio*

Major
UN MANUFACTURING, INC.

**MAJOR
MANUFACTURING
PRODUCTS
WINNER:**

Baldwin Thumb Actuator Repair

While servicing a bunch of Baldwin mortise locks at a condo complex, I came across a couple of locks where the thumb actuator was not fully retracting the latch. Some even had duct tape wrapped around the actuating lever to overcome this problem. Over time the tape compressed and did not allow the latches to retract fully.

Since I had the lock out of the door anyway, I simply drilled and tapped a hole for a small, flat head machine screw in the actuator for the thumb-piece. I found that a 1/4 to 3/8" long screw is long enough and will not interfere with proper lock operation. I used a drop of medium thread locker to keep the screw from backing out. Whether this will work on other thumb actuated mortise locks I don't know. But for the Baldwin it works fine.

The locks on these units are easily 10 to 15 years old. The initial problem the customer was having was caused

by a weakened return spring for the thumb lever, causing the lever to sag. Baldwin was happy to send replacement springs at no charge.

*Edward Lind
California*

Editor's Note: Ed, I've encountered similar problems with thumb actuated latches and never thought of using a screw to "take up the slack". What I did was braze (actually I had it done) the worn part of the lever until it was back to its original dimension. However, your tip would work well and should be just as effective. Glad you mentioned Baldwin sending you the

InstaCode



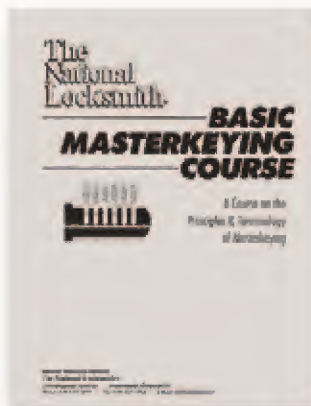
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#IC - 2001

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#MK - 1

springs at no charge. Baldwin guarantees their hardware for a lifetime and I have also found them willing to send replacement parts at no charge. So, any of you readers that have a Baldwin repair, check with Baldwin for the parts.



SLIDELOCK'S "Z" TOOL OPENING SET WINNER: Shop Promotion

Following *The National Locksmith's* web chat room and forums gave me the idea to try promoting my business in local chat rooms and on bulletin boards. I began offering security tips and answering lock questions a couple of evenings a week.

I've been doing this about a month now and have been getting calls from people I've talked to on the net. I try to keep it low-key and don't use my business name because some rooms and boards will kick you off if you try to promote your business.

However, I believe the effort is paying for itself. You might want to give it a try.

John Howard



THE SIEVEKING AUTO KEY GUIDE WINNER: Accura Key Extraction

A hardware store called me after duplicating a customer's key on the wrong blank. When the customer tried to start her car, the car started but she could not shut it off, as the key would not turn to the off position. The store had cut her key on an HD98 blank, which is shorter than the proper HD103. Because the blank is shorter, when the customer tried to turn the key back and push it in at the same time, the bow of the HD98 would prevent the plug from being fully depressed so it could be turned.

To rectify the problem caused by the improperly cut key, I used my Dremel Tool™ to cut the bow of the key off as close to the end of the blade as possible. This left a nub sticking out from the plug. I used my needle-nosed Vise-Grips™ to grasp the end of the blade, push it in as far as it would go and turn the ignition to the "OFF" position.

Then I removed the blank, cut the lady a duplicate on the proper blank and got her on her way.

*Lynn Chambers
Louisiana*



JET KEY BLANKS (100 BLANKS) WINNER: Rim Cylinder Fix

I was servicing an exit device on a glass door that had a Yale rim cylinder on it to lock or unlock the exit device. After rekeying the cylinder, I was reattaching the tailpiece to the back of the plug (It's held on by a roll pin) when my screwdriver slipped and I broke a section of the tailpiece off. That, of course, made the tailpiece too short for the exit device.

As you might expect, I did not have any Yale rim cylinders on the truck, which meant I did not have a tailpiece to substitute for the one I broke. The closest I could come was an old Ilco rim cylinder with a long tailpiece on it.

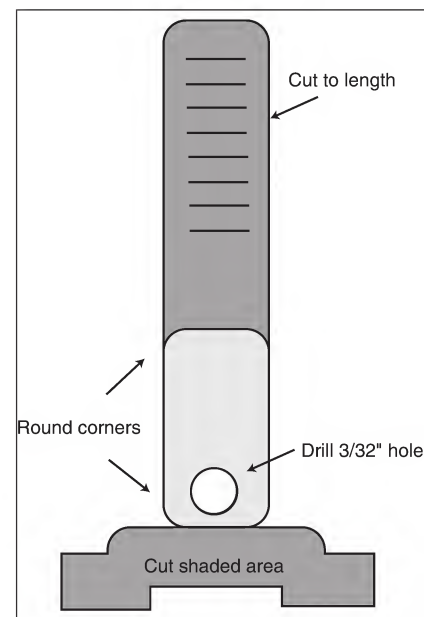


Illustration 4.

I cut the flared end of the Ilco tailpiece off square, cut it to length and then drilled a 3/32" hole in one end for the roll pin to go through. (See *illustration 4.*) I used my Dremel Tool™ to round off the corners and attached the new tailpiece to the end of the plug and reassembled the exit device.

*Glenn Starling
Florida*

Editor's Note: Glenn, thanks for the tip. However, I do not believe the rim cylinder you described was an OEM Yale. It sounds like it was an off shore knock off with a Y1 keyway. Many narrow style door installations carry hardware that uses a variety of after-market cylinders. Other than that, you found a good solution to your problem.



**HIGH TECH
TOOLS WINNER:**

Lost Security Wheel Lug Key

For lost wheel lug locks that are puzzle-shaped in the center, use a 7/8" deep socket with a 1/2" drive ratchet to remove it. Force the socket (Use a hammer if necessary, over the security lug nut and then use a socket wrench (with a breaker bar, if necessary) to remove the nut.

Follow the same procedure to remove any other locking lug nuts on the car. If I damage my sockets, I add the cost of the sockets to the bill.

*Richard A. Vonasch
Illinois*

Editor's Note: Richard, although you may be charging the customer for the ruined sockets, there is a better way. Snap-On, Cromwell, and other tool providers have special socket sets that are specifically designed to remove those pesky security lug nuts you talk about. I don't have any part numbers, but it wouldn't surprise me if your local auto parts store carried these sets as well. I have seen them in various tire shops and they come with either five or six different sized sockets. Or stop the next Snap-On guy or gal you see and ask about the set.

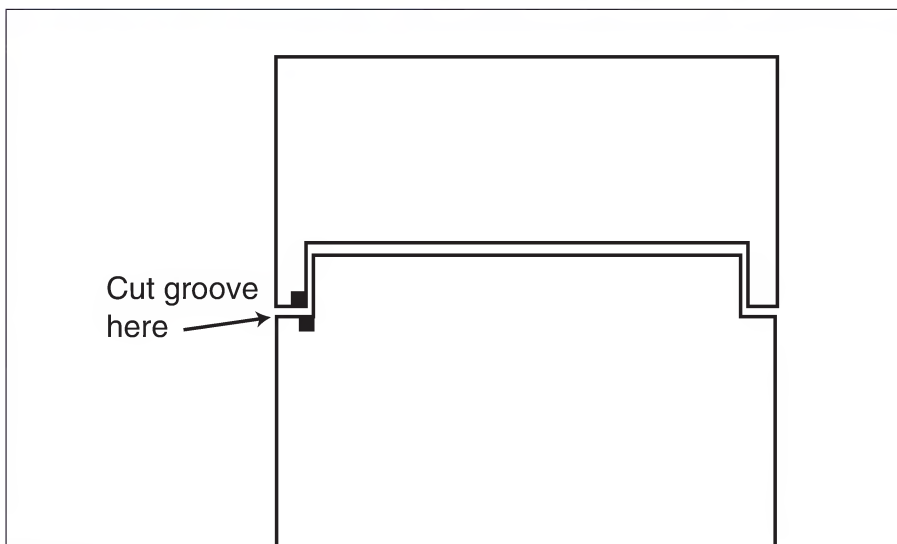
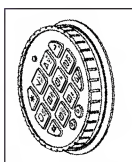


Illustration 5.



**LAGARD COMBO
GUARD WINNER:
Foley 200
Modification**

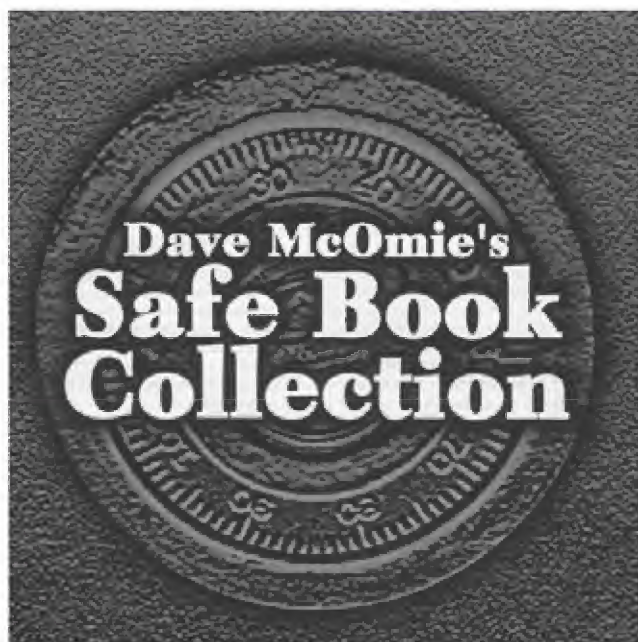
I have had problems cutting Schlage "L" keys on my Foley 200 because of the lip at the base of the blank. It will cause the blank to tilt when I tighten the jaws down on the blank.

I tried a number of ways to hold the blanks steady and finally came up with the solution that you see in *illustration 5*.

I used my Dremel Tool™ to cut a groove, or slot, in both the top and bottom jaws of the machine for the lip of the blank to rest in. No more mis-cut "L" blanks and no more frustration.

*Steve Shields
California*

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#DMCD - 1

2000 DAEWOO *Leganza*



by Tony Vigil & Nelson Rivera

1. The Daewoo Leganza.



2. Lower the tool into the door.

Since the roll out into the US market, autos like Daewoo and Kia have not been great movers. The American public has been slow to embrace these autos, but this perception on Korean automobiles is changing rather quickly.

With lengthy warranties, attractive maintenance packages and price tags too low to ignore, more and more of these vehicles are hitting the roadway. In recent months many car rental agencies have taken notice and now even major rental companies are sporting these once ignored vehicles.

Today we will cover the Daewoo Leganza. (See *photograph 1.*)

This vehicle is perhaps the most popular Daewoo model. With a low price tag and many standard amenities, this seems to be the Daewoo favorite.

To unlock this vehicle we will use the High Tech Tools Number 23 tool. The good boys at High Tech Tools did their homework with this tool. This very popular and useful tool is well suited for unlocking horizontal linkages. It differs from similar tools in that its sloping allows it to guide itself onto the linkage. Lower the tool into the door as shown. (See *photograph 2.*)

This vehicle has a standard horizontal linkage with both the door lock rod and the door handle rod running parallel to each other. Both linkages are close and run together for the most part, except when they get to the bottom of the door where the two separate. (See photograph 3.)

The tool should rest directly on the top rod as shown in photograph 4.

At this point twisting the tool and moving the linkage forward is all that is needed for a quick and reliable opening.

For more information contact:

High Tech Tools
1400 S.W. 1ST Street
Miami, Florida 33135
Telephone 305-649-7014 ,
800-323-8324
Fax 305-541-0074
www.HighTechTools.com.

TNL

3. At the bottom of the door the linkage rods separate.



4. The tool should rest directly on the top rod.



15 Minute Safe Opening

This book deals exclusively with round head lift out doors. Shows five ways to open a Major; three ways to find the Dog Pin on a Major; four ways to open a Star; four ways to open a LaGuard style round head.

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#JJ - 1

Road Rally

A showcase of locksmith service vehicles.

If you think your vehicle has what it takes to be featured here, send photographs and descriptions to:
The National Locksmith, Road Rally, 1533 Burgundy Parkway, Streamwood, Illinois 60107-1861.



Owner: Kirk Lebert,
Windsor, Ontario

Model: 2000 Dodge
2500 Van



Owner: Terry Heinrichs,
Terrace, B.C.

Model: 1998 Ford
E350 Van

TheNationalLocksmith.com

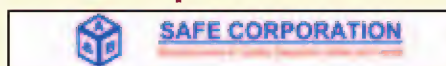
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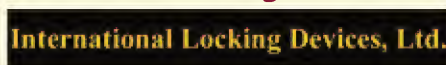
<http://www.pronet.net/dimark>

Dynalock Corp.



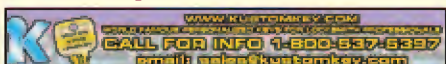
<http://www.dynalock.com>

International Locking Devices, Ltd.



<http://www.gatelock.com>

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<http://www.kustomkey.com>

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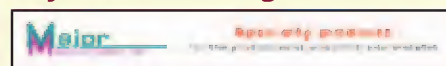
<http://www.magsecurity.com>

McDonald DASH Locksmith Supply



<http://www.mcdonalddash.com>

Major Manufacturing



<http://www.majormfg.com>

WEB REVIEW

HPC, Inc.

<http://www.hpcworld.com/>



HPC's web site is conveniently divided into various product categories which is handy since their product line is quite broad. Sections include Key Machines, Software, Tools, Pick Sets, Car Openers and more.

Once you go into any category, a link is provided for each product. Click the link and you see a photo or illustration of the item, along with a description and specifications.

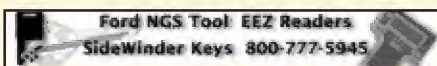
The site lists out all the various distributors from whom you can purchase products. Plus a calendar of events lists most all of the events of interest in the security industry. That makes the site a useful planning tool.

A Product Specials area offers a monthly peek at any online promotions HPC is offering. When we checked the site, one item was offered with a \$20.00 discount, and another featured a free Mini-Mag light with purchase.

Certain areas of the site are secure. User ID: national. Password: G5fh84. Those are case sensitive and will get you access.

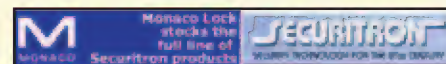


Maziuk Wholesale Distributors



<http://www.mzkworld.com>

Monaco Lock



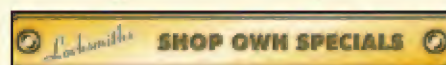
<http://www.monacolock.com>

National Auto Lock Service, Inc.



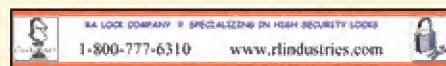
<http://www.laserkey.com>

Omaha Wholesale Hardware



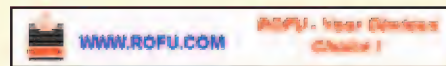
<http://www.omahawh.com>

RA Lock Co.



<http://www.rlindustries.com>

ROFU International Corp.



<http://www.rofu.com>

SecuraKey



<http://www.securakey.com/>

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<http://www.techtrainproductions.com>

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**Taking
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**TEST
DRIVE!**

For years, La Gard has been leading the pack in electronic combination locks. The LGBASIC 3802 is La Gard's entry level electronic combination lock.

FEATURES:

- Two Combinations: A manager and one user combination.
- Manager Mode: Add, temporarily disable or remove a user.
- Wrong Try Penalty: Four invalid combinations initiates five-minute delay period.
- Low Battery Warning: Repeated audio signal during operation indicates battery is low.
- Outside battery compartment located under the input housing.
- One supplied 9-volt battery.
- U.L. Listed
- Satin chrome angular input housing. Brass is optional.

INSTALLATION:

The keypad assembly lifts up to allow access to the mounting holes underneath. Lift the keypad and install the two 8-23 screws to mount the keypad assembly to the door. Make sure the battery cable is routed through the opening at the bottom of the housing and be careful that the wires are not pinched under the housing.

Carefully remove the protective backing layer from the keypad and align on the face of the housing before affixing in place. Press the lock's snap connector toward the bottom of the lock. Carefully insert the entry cable plug at the 'ENT' position.

Mount the lock with the three 1/4"-20 mounting screws from the hardware pack. All four mounting orientations are possible. In the locked position, the boltwork must not place pressure on the lockbolt.

Connect a 9-volt alkaline battery to

LGBASIC 3802

Electronic Combination Lock
by La Gard

the battery clip under the keypad. Insert the battery into the bottom of the housing.

CHANGING COMBINATIONS:

Enter six zeros.

Enter existing combination once.

Enter new combination twice.

Add a User:

Enter the manager combination and hold down the last digit of the combination until the lock signals with two beeps.

Press 1. Lock signals twice.

Enter user combination twice. The lock signals twice after each valid entry.

Disable a User:

Enter the manager combination and hold down the last digit of the combination until the lock signals with two double beeps.

Press 2. Lock signals once.

User is temporarily disabled.

Reinstate Disabled User:

Enter the manager combination and hold down the last digit of the combination until the lock signals with two double beeps.

Press 1. Lock signals once.

User is reinstated.

Remove a User:

Enter the manager combination and hold down the last digit of the combination until the lock signals with two double beeps.

Press 3. Lock signals once.

User is permanently removed.

Wrong Try Penalty:

Entry of four consecutive invalid



combinations starts a 5-minute delay

period.

On any keystroke the lock will respond with three beeps.

LED flashes red at 10-second intervals.

At the end of the delay period, two more consecutive invalid combinations, will restart an additional 5-minute delay period.

LOW BATTERY WARNING:

Repeated beeping during an opening indicates that the battery is low and needs immediate replacement.

Use one 9-volt alkaline battery.

PRICE:

Suggested retail price for the LGBASIC 3802 in satin chrome is \$118.00. In bright brass it is \$127.00.

CONCLUSION:

Installation is a snap, the keypad is attractive and considering the standard features, is very inexpensive. That's a combination that is hard to beat.

For more information on La Gard products contact: LA GARD, Inc., 3330 Kashiwa Street, Torrance, CA 90505, Phone: (310) 325-5670, Fax: (310) 325-5615, E-mail: theone@lagard.com, circle #251 on Rapid Reply. 

IN SUMMARY:

DESCRIPTION: The LGBASIC 3802 is La Gard's entry level electronic combination lock.

PRICE: \$118.00 - \$127.00

COMMENTS: This lock is easy to install and easy to use.

TEST DRIVE RESULTS: Offering a combination of features at a price that's hard to beat.